

**Lawrence Virtual School**  
**Junior High**  
**Resource Manual**

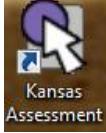
**8<sup>th</sup> Grade**



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## Online Resources

RESOURCE	URL	USERNAME/PASSWORD
K12	<a href="http://www.k12lvs.com">www.k12lvs.com</a>	• — • —
LVS Junior High Website	<a href="http://www.lawrencevs.org">www.lawrencevs.org</a> > Schools > Junior High	n/a
Kansas Computerized Assessment (KCA)	 <p>To install:  <a href="http://www.cete.us/kap/">http://www.cete.us/kap/</a> &gt;          KCA Version 5.4</p> <p>To complete a KCA Quiz:          Double Click on the Kansas Assessment icon on your desktop</p>	Math <ul style="list-style-type: none"> <li>— ...will be given to you by your Math ES</li> <li>• Password: math</li> </ul> Reading <ul style="list-style-type: none"> <li>— ...will be given to you by your Language Skill ES</li> <li>• Password: reading</li> </ul>
Study Island	<a href="http://www.studyisland.com">www.studyisland.com</a>	Username: first letter of your first name.last name@LVS Password: student (you can change this after your first log in) • — • —
LVS Website	<a href="http://www.lawrencevs.org">www.lawrencevs.org</a>	n/a
LVS Operating Procedures	<a href="http://www.lawrencevs.org">www.lawrencevs.org</a> > Operating Procedures	n/a
LVS Technology Support	<a href="http://www.lawrencevs.org">www.lawrencevs.org</a> > Technology	n/a
LVS Art Website	<a href="http://www.lawrencevs.org">www.lawrencevs.org</a> > Art	• — • —
IXL	<a href="http://www.ixl.com">www.ixl.com</a>	• — • —
ALEKS		• — • —
BAIP		• — • —
Renzulli	<a href="http://www.renzulli.com">www.renzulli.com</a>	• — • —
Quizlet	<a href="http://www.quizlet.com">www.quizlet.com</a>	• — • —
		• — • —

## Illuminate Classrooms

<b>Department</b>	<b>Education Specialist</b>	<b>Classroom Link</b>
Academic Enhancement; Math		
Academic Enhancement; Reading	Deb Hernandez	<a href="http://tinyurl.com/hernandez-reading-room">http://tinyurl.com/hernandez-reading-room</a>
Art	Krista Hepford	<a href="http://tinyurl.com/Virtual-ART-ROOM">http://tinyurl.com/Virtual-ART-ROOM</a>
History	Kim Hett	<a href="http://tinyurl.com/5nfum3">http://tinyurl.com/5nfum3</a>
Instructional Support Specialist	Kasey Frost	<a href="http://tinyurl.com/frost-virtual-classroom">http://tinyurl.com/frost-virtual-classroom</a>
Language Arts	Charles Goolsby	<a href="http://tinyurl.com/GoolsbysRoom">http://tinyurl.com/GoolsbysRoom</a>
Language Arts	Amanda Gorman	<a href="http://tinyurl.com/gorman-classroom">http://tinyurl.com/gorman-classroom</a>
Math	Rachel Long	<a href="http://tinyurl.com/rlongmathchat">http://tinyurl.com/rlongmathchat</a>
Math	Jami Widrig	<a href="http://tinyurl.com/widrigmathclass">http://tinyurl.com/widrigmathclass</a>
Science		
SPED	Emily Collins	<a href="http://tinyurl.com/Mrs-Collins">http://tinyurl.com/Mrs-Collins</a>
SPED	Nancy Jackson	<a href="http://tiny.cc/NJacksonVirtualClassroom">http://tiny.cc/NJacksonVirtualClassroom</a>
SPED	Amy Mispagel	<a href="http://tinyurl.com/ms-mispagel">http://tinyurl.com/ms-mispagel</a>

## Helpful Numbers

<b>CURRICULUM CONCERNS</b>	
K12 Customer Care	1.866.512.2273
<b>LAPTOP SUPPORT</b>	
Dell Gold Tech Support	Call 1-866-516-3115 if you have a Latitude E5400; Call 1-888-977-3355 if you have a D530
Dell Gold Support Website	<a href="http://www.support.dell.com">www.support.dell.com</a>
LVS JH Technology Website	<a href="http://www.lawrencevs.org">www.lawrencevs.org</a> > Technology > Laptop Repair
<b>LAWRENCE VIRTUAL SCHOOL</b>	
Phone: 785.832.5620 FAX: 785.832.5621 <a href="http://www.lawrencevs.org">www.lawrencevs.org</a>	Wakarusa Valley Learning Center 1104 E. 1000 Rd. Lawrence, KS 66047
<b>EDUCATION SPECIALISTS</b>	
Emily Collins	913-393-9988
Kasey Frost	785-594-6994
Charles Goolsby	785-550-2216
Amanda Gorman	913-888-7749
Krista Hepford	785-979-4038
Deb Hernandez	785-342-6083
Kim Hett	785-212-6064
Nancy Jackson	785-741-2009
Rachel Long	913-709-5294
Amy Mispagel	913-390-6723
Jami Widrig	785-439-6581

## **Conference Notes**

AUGUST			
Date:	Time:	Participants:	
<i>Looking Back:</i>  What's Going Well?	<i>Current K12 Progress:</i>  Math- English- History- Science- Curriculum ?'s-	<i>Agenda Items &amp; Specific Topics:</i>	<i>Looking Ahead Goals:</i>  To Do-
		Issues/Questions-	
Notes:			

AUGUST			
Date:	Time:	Participants:	
<i>Looking Back:</i>  What's Going Well?	<i>Current K12 Progress:</i>  Math- English- History- Science- Curriculum ?'s-	<i>Agenda Items &amp; Specific Topics:</i>	<i>Looking Ahead Goals:</i>  To Do-
		Issues/Questions-	
Notes:			

SEPTEMBER			
Date:	Time:	Participants:	
<i>Looking Back:</i>  What's Going Well?  What Needs Improvement?	<i>Current K12 Progress:</i>  Math- English- History- Science- Curriculum ?'s-	<i>Agenda Items &amp; Specific Topics:</i>  Issues/Questions-	<i>Looking Ahead Goals:</i>  To Do-
Notes:			

SEPTEMBER			
Date:	Time:	Participants:	
<i>Looking Back:</i>  What's Going Well?  What Needs Improvement?	<i>Current K12 Progress:</i>  Math- English- History- Science- Curriculum ?'s-	<i>Agenda Items &amp; Specific Topics:</i>  Issues/Questions-	<i>Looking Ahead Goals:</i>  To Do-
Notes:			

OCTOBER			
Date:	Time:	Participants:	
<i>Looking Back:</i>  What's Going Well?	<i>Current K12 Progress:</i>  Math- English- History- Science- Curriculum ?'s-	<i>Agenda Items &amp; Specific Topics:</i>  Issues/Questions-	<i>Looking Ahead Goals:</i>  To Do-
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<i>Looking Back:</i>  What's Going Well?	<i>Current K12 Progress:</i>  Math- English- History- Science- Curriculum ?'s-	<i>Agenda Items &amp; Specific Topics:</i>  Issues/Questions-	<i>Looking Ahead Goals:</i>  To Do-
Notes:			

NOVEMBER			
Date:	Time:	Participants:	
<i>Looking Back:</i>  What's Going Well?	<i>Current K12 Progress:</i>  Math- English- History- Science- Curriculum ?'s-	<i>Agenda Items &amp; Specific Topics:</i>  Issues/Questions-	<i>Looking Ahead Goals:</i>  To Do-
Notes:			

NOVEMBER			
Date:	Time:	Participants:	
<i>Looking Back:</i>  What's Going Well?	<i>Current K12 Progress:</i>  Math- English- History- Science- Curriculum ?'s-	<i>Agenda Items &amp; Specific Topics:</i>  Issues/Questions-	<i>Looking Ahead Goals:</i>  To Do-
Notes:			

DECEMBER			
Date:	Time:	Participants:	
<i>Looking Back:</i>	<i>Current K12 Progress:</i>	<i>Agenda Items &amp; Specific Topics:</i>	<i>Looking Ahead Goals:</i>
What's Going Well?	Math- English- History- Science- Curriculum ?'s-	Issues/Questions-	To Do-
Notes:			

DECEMBER			
Date:	Time:	Participants:	
<i>Looking Back:</i>	<i>Current K12 Progress:</i>	<i>Agenda Items &amp; Specific Topics:</i>	<i>Looking Ahead Goals:</i>
What's Going Well?	Math- English- History- Science- Curriculum ?'s-	Issues/Questions-	To Do-
Notes:			

JANUARY			
Date:	Time:	Participants:	
<i>Looking Back:</i>  What's Going Well?	<i>Current K12 Progress:</i>  Math- English- History- Science- Curriculum ?'s-	<i>Agenda Items &amp; Specific Topics:</i>  Issues/Questions-	<i>Looking Ahead Goals:</i>  To Do-
Notes:			

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Date:	Time:	Participants:	
<i>Looking Back:</i>  What's Going Well?	<i>Current K12 Progress:</i>  Math- English- History- Science- Curriculum ?'s-	<i>Agenda Items &amp; Specific Topics:</i>  Issues/Questions-	<i>Looking Ahead Goals:</i>  To Do-
Notes:			

FEBRUARY			
Date:	Time:	Participants:	
<i>Looking Back:</i>  What's Going Well?  What Needs Improvement?	<i>Current K12 Progress:</i>  Math- English- History- Science- Curriculum ?'s-	<i>Agenda Items &amp; Specific Topics:</i>  Issues/Questions-	<i>Looking Ahead Goals:</i>  To Do-
Notes:			

FEBRUARY			
Date:	Time:	Participants:	
<i>Looking Back:</i>  What's Going Well?  What Needs Improvement?	<i>Current K12 Progress:</i>  Math- English- History- Science- Curriculum ?'s-	<i>Agenda Items &amp; Specific Topics:</i>  Issues/Questions-	<i>Looking Ahead Goals:</i>  To Do-
Notes:			

MARCH			
Date:	Time:	Participants:	
<i>Looking Back:</i>  What's Going Well?	<i>Current K12 Progress:</i>  Math- English- History- Science- Curriculum ?'s-	<i>Agenda Items &amp; Specific Topics:</i>  Issues/Questions-	<i>Looking Ahead Goals:</i>  To Do-
Notes:			

MARCH			
Date:	Time:	Participants:	
<i>Looking Back:</i>  What's Going Well?	<i>Current K12 Progress:</i>  Math- English- History- Science- Curriculum ?'s-	<i>Agenda Items &amp; Specific Topics:</i>  Issues/Questions-	<i>Looking Ahead Goals:</i>  To Do-
Notes:			

APRIL			
Date:	Time:	Participants:	
<i>Looking Back:</i>  What's Going Well?	<i>Current K12 Progress:</i>  Math- English- History- Science- Curriculum ?'s-	<i>Agenda Items &amp; Specific Topics:</i>  Issues/Questions-	<i>Looking Ahead Goals:</i>  To Do-
Notes:			

APRIL			
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<i>Looking Back:</i>  What's Going Well?	<i>Current K12 Progress:</i>  Math- English- History- Science- Curriculum ?'s-	<i>Agenda Items &amp; Specific Topics:</i>  Issues/Questions-	<i>Looking Ahead Goals:</i>  To Do-
Notes:			

MAY			
Date:	Time:	Participants:	
<i>Looking Back:</i>  What's Going Well?	<i>Current K12 Progress:</i>  Math- English- History- Science- Curriculum ?'s-	<i>Agenda Items &amp; Specific Topics:</i>  Issues/Questions-	<i>Looking Ahead Goals:</i>  To Do-
Notes:			

MAY			
Date:	Time:	Participants:	
<i>Looking Back:</i>  What's Going Well?	<i>Current K12 Progress:</i>  Math- English- History- Science- Curriculum ?'s-	<i>Agenda Items &amp; Specific Topics:</i>  Issues/Questions-	<i>Looking Ahead Goals:</i>  To Do-
Notes:			

I will insert the hard copy of the Standards Based Progress Report here.





## **Math & Reading Resource Packets**

As LVS Education Specialists we are always trying to think of ways to help you, the Learning Coach, as you take on the awesome job educating your child/ren. In an effort to support your teaching endeavors, we would like to offer these resources to help you enrich and build upon the educational base that you are building. Use them throughout the year as you are working through the K12 Math curriculum. We will also be referring to these resources and providing more guidance as the year progresses. We hope you will find these to be beneficial.

### **MATH & READING PACKETS**

You can pick these up at the beginning of the year Technology pick-ups, any Meet Your Teacher event, or request them through your Education Specialist, to be mailed to you. You can use these resources in conjunction with your K12 course work, Elluminate Sessions, and when you are conferencing with your Education Specialist.

### **MATH CONTENTS:**

#### **7<sup>th</sup> GRADE**

- COVER LETTER
- FLASHCARDS (Area, Perimeter, Frequency Table, Venn Diagram, Plots, Graphs, Circumference)
- BOOKMARK ('of')
- SMALL POSTERS (Clues to Changing Word Problems to Equations, Triangles, Finding the nth Term, Quadrilaterals, SA of Cube and Volume Formula, Coordinate Graphing, Formula, Scratch Paper, Composite Area, Composite Perimeter, Finding a pattern in a Sequence of Numbers, Misleading Data Circle Graph, Misleading Data Line Graph)

#### **8<sup>th</sup> GRADE**

- COVER LETTER
- FLASHCARDS (Area, Perimeter, Mean, Median, Mode, Range, Natural, Whole, Rational, Irrational Numbers, Integers, Area & Circumference of a Circle, Slope, Pythagorean Theorem)
- SMALL POSTERS (Measures of Central Tendency, Order of Operations, Subsets of the Real Number System, Number Sense, Pythagorean Theorem, Clues to Changing Word Problems to Equations, Slope, Connecting Geometry and Algebra Perspective, Probability, Formula, Scratch Paper, Median, Mode, Mean)

### **READING CONTENTS:**

- Narrative Text Cue Cards
- Expository Text Cue Cards
- Read-Aloud as a Teaching Time Article
- Question Answer Relationship (QAR) Student Question Chart – Copy this form and have your student periodically fill it out as they read an Expository text.
- QAR Question Prompts – Periodically use these bookmarks as your student reads an Expository text.
- Graphic Organizers and How to Use Them handout
- Text Structure Signal Questions & Signal Words handout
- Academic Vocabulary form – copy and complete when needing to remember important vocabulary terms in an Expository text passage (great for history lessons, science experiments, etc.)
- Flashcards

## **Kansas State Assessment Information**

### **What Do the Kansas State Assessments Assess?**

Our state has done a very good job of creating a list of specific skills that each student needs to have mastered by the end of a specific grade level. These skills will help them to be successful, functioning, productive members of our global society. The list starts out with very broad concepts every student should be able to do well before they enter the working world or continue on to college. These broad targets are called **standards**. Under each standard are more specific tasks each student should be able to do at each grade level; these are called **benchmarks**. The way that they will demonstrate mastery of the standard is called an **indicator**. For example, everyone would agree that it is critical for students to be able to understand what they have read, so the state created this *standard* in reading:

***Reading Standard 1: The student reads and comprehends text across the curriculum.***  
*(This means that they can read and understand all types of texts)*

The goal for every 18 year old graduating school should be to have each *standard* mastered. But, looking at the *standard* above, we all know that children are not born knowing how to read and comprehend. There are many small steps, *benchmarks*, which need to be mastered along the way, before a student is able to read and comprehend what they have read.

***Benchmark 3: The student expands vocabulary.***

If you don't understand what the words on a page mean, when you read out loud you are simply "word calling" and won't get much from the text. An example is the student who moved to Kansas from Cambodia. She could pronounce every word in her textbook correctly and seemed to be a strong reader, but when you asked her what she read she had no clue. Her working English vocabulary was very small, and this really hindered her ability to comprehend text. We knew she was struggling with this benchmark by observing her during instruction. But, we can do more than just observe. We can identify, in depth, the specific skills, *standards*, that they are having difficulty with by creating assessments that allow them to demonstrate what they know. Through this demonstration, we are able to take it a step further and analyze if a student is on track.

***Indicator: The student can read one-syllable and often-heard words by sight.***

If the Learning Coach / teacher points to one-syllable, familiar words and the student recognizes and reads them by the spring of their kindergarten year then they are doing fine. If they are struggling a bit, this assessment helps the Learning Coach / teacher to pinpoint the specific skill, and then provide more instruction and support in it. Taking a little extra time working on this with our kindergarten student will ensure that he/she has the skill necessary to go on to the next grade level and enjoy success. Fast forward to seventh grade....looking at the same standard and the same benchmark, we will expect our student to perform at a higher level. As the grade levels increase, so do the expectations of the *indicators*:

***Indicator: The student determines the meaning of words or phrases using context clues from sentences or paragraphs.***

### **Norm Referenced vs. Criterion Referenced Tests**

There are two types of tests that a student may take in the course of their educational career: Norm Referenced and Criterion Referenced tests. Some students have taken the ITBS (Iowa Tests of Basic Skills) or the CAT5 (California Achievement Test). These are Norm Referenced tests. Scores from Norm Referenced tests do not tell us specifically what a student knows or what they do not know. They can only tell us how a given student's knowledge or skill compares with that of others in the norm group. A Kansas student's ITBS scores are compared to kids across the country. A 6th grade student who scores in the 55th percentile in math tells us that the student did better than 55% of all the 6th grade students who took the test. But what specifically are they struggling with? The test results for these Norm Referenced tests do not tell us. So, a student may score a 99% and have done better than 99% of his/her classmates. But they may have only answered 35% of the *questions* correctly. That test did not paint an accurate picture of how the student was performing. It just meant that the group he/she was being compared too, learned even less! ACT and SAT tests taken in high school for college admissions are also Norm Referenced tests.

Criterion Referenced tests, like our Kansas State Assessment, involve comparing a student's performance with a list of specific skills or knowledge they are expected to know, rather than with the performance of a norm group. It does not matter if a student does better than 55% of all the other students in Kansas on the state assessment. What matters is how many of the indicators they personally, show mastery on. [Note: The lesson and unit tests our students take through K12 are also Criterion Referenced tests.]

## **What do the Kansas State Assessment Scores Mean?**

Based upon a formula that the state has created, students are placed into five categories according to the percentage of correct answers they earn on the state assessment. The categories, from lowest to highest are:

- Academic Warning (AW)
- Approaches Standard (AS)
- Meets Standard (MS)
- Exceeds Standard (ES)
- Exemplary (EX)

It is important to remember that these performance levels do *not* correspond to traditional grades (i.e. A, B, C, D, and F). The designations "Meets Standard", "Exceeds Standard", and "Exemplary" mean that a student is on track to meeting the Kansas state standard, on or before they finish high school. If a student does not meet the standard, earning an "Academic Warning" or "Approaches Standard" score, this does not mean that they have failed the assessment. It means that we want to take a closer look at the specific standards, benchmarks, and indicators that he/she scored lower in, and discuss why this happened. This dialogue will help to focus specifically on the student and how we can best help them to master the necessary skills.

## **How Can A Student Best Prepare for the Kansas State Assessment?**

Engaging in school, every day, will help students learn and practice the skills that are necessary for their educational success. LVS Junior High students will have many opportunities to help prepare for the state assessments.

- Complete *K12 lessons* as required and/or scheduled
- Follow and complete *Math Map*

- Complete *Math Checkpoint Quizzes* – Kansas Computerized Assessment Formative Tests (And participating in the re-teaching / re-assessing if needed.)
- Complete *Reading Checkpoint Quizzes* - Study Island Quizzes (And participating in the re-teaching / re-assessing if needed.)
- Attend Curriculum *Illuminate Sessions*
- Utilize the *Standards Based Progress Report*
- Complete the “Assessment Practice Questions”, in this manual

By completing K12 lessons, engaging in the above preparation activities, and working closely with Education Specialists, students will have covered the needed grade level skills, and be fully prepared for the Kansas State Assessment.



## Math



## **Grade Eight Math Assessment Practice**

Contents of This Section:

### **1. Specific Indicator; including a Teaching Tip and a Mini Math Test**

Upon completion of the Mini-Math Test, if it is evident that a student needs more practice, the Learning Coach can adjust the daily teaching, reteach needed skills, and/or ask an Education Specialist for more support and test practice.

### **2. Grade 7 Comprehensive Math Practice Test, covering all of the State Tested Indicators**

The questions on the Kansas State Assessment will not be grouped together by specific indicator. This practice test is a great example of a comprehensive test. When a student completes these tests, it is wise to encourage them to be completed in a quiet, controlled environment. If they have a question over the directions, a Learning Coach *can* read the directions and/or problem to them, but cannot *explain* the directions and/or problem to them. Although this can be difficult, it gives a more accurate picture of what they will need help with on the actual assessment. After they have completed the test, spend time going over what they did and didn't understand. The answers to the tests can be found after the Practice Test.

### **3. Math State Standards and Benchmarks**

The indicators that are included in the State Math Assessment are marked with a triangle, known as a 'delta'.

## Tested Indicator A

### Standard/Benchmark/Indicator

M.8.1.1.K5a-c

Standard: Number and Computation

Benchmark: Number Sense

Indicator: Knows and explains what happens to the product or quotient when: a) a positive number is multiplied or divided by a rational number greater than zero and less than one; b) a positive number is multiplied or divided by a rational number greater than one; c) a nonzero real number is multiplied or divided by zero

### Explanation of Indicator

When a positive number (such as 4) is multiplied by a number greater than zero but less than 1 (such as  $\frac{1}{2}$ ), the result is smaller than the first number ( $4 \cdot \frac{1}{2} = 2$ ). When a positive number (such as 4) is divided by a number greater than zero but less than 1 (such as  $\frac{1}{2}$ ), the result is greater than the first number ( $4 \div \frac{1}{2} = 8$ ). When a number other than 0 (such as - 4) is multiplied by 0, the result is 0 (- 4 • 0 = 0).

### Instructional Example

Have your student find  $\frac{1}{2}$  of a recipe. For example if a recipe called for 2 cups of flour, then  $2 \cdot \frac{1}{2} = 1$  or if the recipe called for  $\frac{1}{2}$  cup of sugar, then  $\frac{1}{2} \cdot \frac{1}{2} = \frac{1}{4}$ .

Have your student divide two candy bars into  $\frac{1}{4}$ 's ( $2 \div \frac{1}{4} = 8$  pieces).

Have student figure how much buying 0 candy bars at \$0.59 would cost.

### Item Specification

Category 2: Perform Procedures: 2b. Do computational procedures or algorithms

Category 3: Demonstrate Understanding of Mathematical Ideas 3a. Communicate mathematical ideas or rules and/or explain the process

### Assessment Item Example

If a positive two-digit number is multiplied by a fraction greater than one, the product **must** be

- A. less than the fraction but greater than the two-digit number.
- B. greater than both the fraction and the two-digit number.
- C. greater than the fraction and less than the two-digit number.
- D. less than both the fraction and the two-digit number.

Correct Answer: B

### Teaching Tips—

Number sense refers to one's ability to reason with numbers and to work with numbers in a flexible way. The ability to compute mentally, to estimate based on understanding of number relationships and magnitudes, and to judge reasonableness of answers are all involved in number sense.

- The student with number sense will look at a problem holistically before confronting the details of the problem. The student will look for relationships among the numbers and operations and will consider the context in which the question was posed.
- Students with number sense will choose or even invent a method that takes advantage of their own understanding of the relationships between numbers and between numbers and operations, and they will seek the most efficient representation for the given task.
- Number sense can also be recognized in the students' use of benchmarks to judge number magnitude (e.g.,  $\frac{2}{5}$  of 49 is less than half of 49), to recognize unreasonable results for calculations, and to employ non-standard algorithms for mental computation and estimation.
- If you think about division as undoing multiplication, you'll see why we don't divide by zero.  
EXAMPLE: Try to divide  $245 \div 0$ . To divide, think of the related multiplication equation.  $245 \div 0 = ?$  asks the same question as  $? \times 0 = 245$ . When you think about it this way, you can see that you're really stuck because any number times zero is zero! So, mathematicians say that division by zero is undefined. *Don't try to divide by Zero.*

## Grade 8 Mini Math Test #A

Student Name: \_\_\_\_\_

**Read each question below and circle the correct answer.**

$\frac{1}{3}$

1. When 4 is multiplied by  $\frac{1}{3}$ , the product will be a number  
A. less than 4.  
B. between 4 and 8.  
C. between 8 and 12.  
D. greater than 12.
- 

$\frac{2}{3}$

2. When 27 is divided by  $\frac{2}{3}$ , the result will be a number  
A. between 0 and 9.  
B. between 9 and 18.  
C. between 18 and 27.  
D. between 27 and 50.
- 

$\frac{1}{5}$

3. The product of  $\frac{1}{5}$  and any positive number will **always** be  
A. greater than the positive number.  
B. less than the positive number.  
C. an even number.  
D. an odd number.
- 

$\frac{1}{10}$

4. When any positive number is divided by  $\frac{1}{10}$ , the quotient will **always** be  
A. less than 10.  
B. greater than 10.  
C. less than the positive number.  
D. greater than the positive number.
- 

$\frac{5}{3}$

5. The product of  $\frac{5}{3}$  and 60 is

$\frac{5}{3}$

- A. less than  $\frac{5}{3}$ .  
B. greater than 60.

$\frac{5}{3}$

- C. less than 30 but greater than  $\frac{5}{3}$ .  
D. greater than 30 but less than 60.
-

**6.** When  $50$  is divided by  $\frac{7}{3}$ , the quotient is

A. less than  $\frac{7}{3}$ .

B. greater than  $\frac{7}{3}$ , but less than  $50$ .  
C. greater than  $50$ , but less than  $60$ .  
D. greater than  $60$ .

---

**7.** Which statement about the product of  $2 \cdot 0$  is true?

- A. The product is less than  $0$ .  
B. The product is equal to  $0$ .  
C. The product is equal to  $2$ .  
D. The product is greater than  $2$ .
- 

**8.** What is the product of any nonzero real number ( $n$ ) and zero?

- A.  $0$   
B.  $1$   
C.  $n$   
D.  $2n$
- 

**9.** Which statement about the product of a nonzero number and zero is **always** true?

- A. The product is equal to one.  
B. The product is equal to zero.  
C. The product is equal to the nonzero number.  
D. The product is the reciprocal of the nonzero number.
- 

**10.** Which equation correctly represents the product of a nonzero real number and zero?

- A.  $613.57 \cdot 0 = 613.57$

B.  $\frac{2}{7} \cdot 0 = 0$

C.  $13 \cdot 0 = -13$

D.  $\frac{1}{5} \cdot 0 = 1$

---

## Tested Indicator B

### Standard/Benchmark/Indicator

M.8.1.2.A1a-b

Standard: Number and Computation

Benchmark: Number Systems and Their Properties

Indicator: Generates and or/solves real-world problems with rational numbers using the concepts of these properties to explain reasoning: a) commutative, associative, distributive, and substitution properties; b) identity and inverse properties of addition and multiplication

### Explanation of Indicator

Numbers can be added or multiplied in any order resulting with the same answer (commutative). When a series of numbers is added or multiplied, the order in which the values are added or multiplied doesn't affect the result (associative). When multiplying a number by the sum of numbers, you can multiply each of the numbers by the factor first and then add (distributive). A number may be substituted for a variable or equivalent quantity (substitution). When 0 is added to another number it doesn't change the value of the number (identity for addition). When a number is multiplied by 1 it doesn't change the value of the number (identity for multiplication). A number plus its opposite is 0 (additive inverse). A number multiplied by its reciprocal is 1 (multiplicative inverse). It is important that students know the name of the property as used in the indicator.

### Instructional Example

Distributive property: Each class will get a third of the concession stand profits. One night has \$100 profit and the next night has \$200 profit. You can either, add the profits from each night and then multiply the sum of \$300 by one third or you can multiply each night's profit by one third and add the results.

Commutative property: Have student add a list of numbers together that have some compatible numbers such as 2, 7, 5, 4, 3, 8, and 6. It is easy to add 2 and 8 to get 10, 7 and 3 to get 10, 6 and 4 to get 10, and then add 5 for a total of 35.

Category 3: Demonstrate Understanding of Mathematical Ideas: 3a. Communicate mathematical ideas or rules and/or explain the process

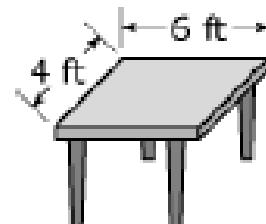
Category 5: Solve Non-routine Problems/Make Connections: 5b. Apply mathematics in contexts outside of mathematics (whenever possible, include diagrams/visuals)

### Assessment Item Example

John wants to nail edging around a table, shown on the right. John uses the expression  $(4 + 6) + (4 + 6)$  to determine the number of feet of edging he needs. Which expression is equivalent to John's?

- A.  $(4+4) + (6+6)$
- B.  $2 \times (4 \times 6)$
- C.  $(6+4) \times (6+4)$
- D.  $(2 \times 4) + 6$

Correct Answer: A



### Teaching Tips—

- Students should be familiar with how these properties work. If they are struggling to understand the differences, they can do extra practice problems or make flashcards.
- Little tricks to help you remember is good—associative property is when the grouping doesn't matter— $(a + b) + c = a + (b + c)$  or  $(ab)c = a(bc)$ .
- You might think of associations as groups... "The associative property has to do with grouping." Something like that.
- You may notice in these practice problems that they are not asking for students to identify the term. They want them to understand how to use and apply it.

## **Grade 8 Mini Math Test #B**

Student Name \_\_\_\_\_

**Read each question below and circle the correct answer.**

- 1.** Anita did 30 minutes of walking and 15 minutes of biking each day for a week. She used the expression below to find the total number of minutes that she exercised.

$$(7 \times 15) + (7 \times 30)$$

Which expression could also be used to find the total number of minutes that she exercised?

- A.  $2(15 + 30)$
- B.  $7(15 + 30)$
- C.  $15(7 + 30)$
- D.  $30(7 + 15)$

- 
- 2.** Marlena needs 7 three-foot long pieces of fabric, and 7 five-foot long pieces of fabric. She uses the expression below to find the total number of feet of fabric that she needs.

$$(7 \times 3) + (7 \times 5)$$

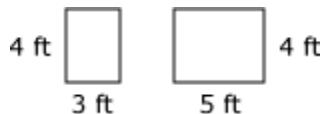
Since Marlena needs the same number of pieces of both lengths of fabric, which expression could also be used to find the total number of feet of fabric she needs?

- A.  $3(5 + 7)$
- B.  $5 + (3 \times 7)$
- C.  $7(3 + 5)$
- D.  $7 + (3 \times 5)$

- 
- 3.** Maria went to a store to buy some new clothing. She decided to buy one shirt that cost \$7.99. Which equation represents this situation?

- A.  $-7.99 + 7.99 = 0$
- B.  $7.99 + 1 = 8.99$
- C.  $7.99\left(\frac{1}{7.99}\right) = 1$
- D.  $1(7.99) = 7.99$

- 4.** Mike will combine the two rectangular pieces of marble shown below to make a kitchen counter.



Which expression could be used to calculate the amount of space in square feet ( $\text{ft}^2$ ) that the two pieces of marble will provide?

- A.  $4 \times 3 + 5 \text{ ft}^2$
  - B.  $4 + 3 \times 5 \text{ ft}^2$
  - C.  $4(3 + 5) \text{ ft}^2$
  - D.  $4(3 \times 5) \text{ ft}^2$
- 

- 5.** Galen used the expression below to find the total number of points that he earned on 4 quizzes.

$$15 + 13 + 15 + 17$$

Since the numbers in an addition sentence can be rearranged before adding, which expression could Galen also use to find the total number of points earned?

- A.  $15 + 17 + 13$
  - B.  $15 + 15 + 13 + 17$
  - C.  $15(13 + 17)$
  - D.  $15(15 + 13 + 17)$
- 

- 6.** Andrew received his paycheck of \$43 and went to the mall. He spent \$25 of the money on clothing, \$13 on food, and \$5 on gas for his car. Which equation represents this situation?

- A.  $43 + (25 - 13 - 5) = 50$
  - B.  $(25 + 13 + 5) + 43 = 86$
  - C.  $43 - (25 + 13 + 5) = 0$
  - D.  $(25 + 13 - 5) + 0 = 33$
-

## Tested Indicator C

### Standard/Benchmark/Indicator

M.8.1.2.K2

Standard: Number and Computation

Benchmark: Number Systems and Their Properties

Indicator: Identifies all the subsets of the real number system [natural (counting) numbers, whole numbers, integers, rational numbers, irrational numbers] to which a given number belongs

### Explanation of Indicator

Natural numbers are those numbers we count with; whole numbers are the counting numbers and zero; integers include zero, whole numbers and their opposites; rational numbers are those numbers that can be expressed as fractions; and irrational numbers are those numbers that cannot be expressed as fractions. Students need to know which set(s) of numbers to which a given number belongs.

### Instructional Example

Identify sets of numbers to which a given number belongs. For instance, which set(s) of numbers does your child's shoe size fit in? the money in your pocket? your address?

### Item Specification

Category 1: Memorize Facts/Definitions/Formulas: 1b. Recall or recognize mathematical terms, definitions, or concepts

### Assessment Item Example

Which number is a natural/counting number?

- A. -1
- B.  $\frac{1}{2}$
- C. 19.99
- D. 109

Correct Answer: D

### Teaching Tips—

These are terms your student will need to memorize:

- **Natural numbers** are the counting numbers—1, 2, 3, 4, 5, etc.
- **Whole numbers**—the set consisting of zero and the positive integers (also called counting numbers)—0, 1, 2, 3, 4, 5, etc.
- **Integers**—the whole numbers and their opposites (the set consisting of positive integers, negative integers, and zero)
- **Rational number**—a real number that can be expressed as the quotient of two integers

Examples of rational numbers include:

$$0 = \frac{0}{1} \quad 7 = \frac{7}{1} \quad 5\frac{2}{3} = \frac{17}{3} \quad 0.43 = \frac{43}{100} \quad -\frac{4}{9} = -\frac{4}{9} \quad 48\% = \frac{48}{100}$$

A rational number can be represented by either a terminating decimal or a repeating decimal.

- **Irrational number**—a real number that can't be expressed in the form  $\frac{a}{b}$ , where a and b are integers. Pi is an irrational number, because it cannot be written in the form  $\frac{a}{b}$  where a and b are integers.

b

An irrational number will not terminate or repeat.

## **Grade 8 Mini Math Test #C**

Student Name\_\_\_\_\_

**Read each question below and circle the correct answer.**

**1.** Which number is an integer?

A. -3.2

B. -0.3

$\frac{2}{3}$

C.  $\frac{3}{3}$

$\frac{3}{1}$

D. 1

---

**2.** A list of numbers is given below.

$$\frac{1}{2} \quad \frac{2}{3} \quad \frac{3}{4} \quad \frac{4}{5} \quad \frac{5}{6}$$

What type of numbers are these?

A. whole numbers

B. integers

C. natural numbers

D. rational numbers

---

$$\frac{2}{3}$$

**3.** The number  $\frac{2}{3}$  belongs to which subset of the real number system?

A. integers

B. whole numbers

C. natural numbers

D. rational numbers

---

**4.** To which subsets of the real number system does the number -5 belong?

A. counting and integer

B. integer and rational

C. rational and whole

D. whole and counting

---

**5.** Which subset of the real number system does **not** contain the number 0?

- A. natural numbers
  - B. whole numbers
  - C. rational numbers
  - D. integers
- 

**6.** The numbers below all belong to a subset of the real number system.

-3 -2 0 1

Which subset of the real number system do these numbers belong to?

- A. whole numbers
  - B. integers
  - C. natural numbers
  - D. irrational numbers
- 

**7.** Which subsets of the real number system contain the number -3?

- A. integers and natural numbers
  - B. integers and rational numbers
  - C. whole numbers and natural numbers
  - D. whole numbers and rational numbers
- 

**8.** Which number is an integer?

- A.  $-\frac{3}{2}$
  - B.  $-\frac{4}{5}$
  - C.  $\frac{1}{3}$
  - D.  $\frac{5}{1}$
-

## Tested Indicator D

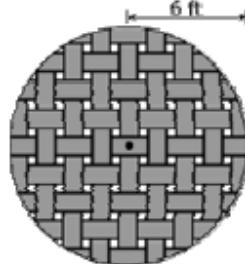
<b>Standard/Benchmark/Indicator</b> M.8.1.4.A1a-c <u>Standard:</u> Number and Computation <u>Benchmark:</u> Computation <u>Indicator:</u> Generates and/or solves one- and two-step real-world problems using computational procedures and mathematical concepts: a) rational numbers; b) the irrational number pi as an approximation; c) applications of percents
<b>Explanation of Indicator</b> Solve real-world problems that involve one and two steps to solve using computation of addition, subtraction, multiplication, and/or subtraction of numbers that are positive and negative with decimals (that repeat or terminate), fractions, or use pi (3.1415926...) and with percents.
<b>Instructional Example</b> 1. Have student write a problem dealing with some real-world problem such as figuring the amount of paint needed to cover a wall if you know the dimensions of the garage floor if it measures 30 feet by 20 feet and that a gallon of paint will cover 250 square feet. $(30 \bullet 20) \div 250 = 2.4$ gallons. 2. Find the new price of a jacket that costs \$45 is on sale for 20% off. Find by $\$45 - .20 \bullet \$45 = \$36$ or $.80 \bullet \$45 = \$36$ 3. Find the area of a field that is irrigated by a circular irrigation system in which the irrigation system is 660 feet long. Find by $13202 \bullet \pi = 5473911.04$ square feet.
<b>Item Specification</b> Category 2: Perform Procedures: 2d. Solve equations, formulas, or routine word problems Category 5: Solve Non-routine Problems/Make Connections: 5b. Apply mathematics in contexts outside of mathematics (whenever possible, include diagrams/visuals)
<b>Assessment Item Example</b> Wendy has a circular blanket with a radius of 6 ft., as shown on the right. Wendy would like to sew fringe to the border of the blanket. Fringe is sold in spools of 16 ft each. How many spools does Wendy need to buy to have enough fringe for the entire border of the blanket? (Use $\pi = 3.14$ )  <b>A.</b> 2 spools <b>B.</b> 3 spools <b>C.</b> 4 spools <b>D.</b> 5 spools  Correct Answer: B

### Teaching Tips—

Make sure your student notices when the test-makers put a word in bold. Discuss why it is they do that.... How can that help your student?

Understanding that when a question asks, "What is the percent OF a number, or what is a fraction OF a number," they mean for you to multiply. This comes in handy when working on these types of problems.

Any practice on problem solving and estimation will also be helpful.



## Grade 8 Mini Math Test #D

Student Name \_\_\_\_\_

**Read each question below and circle the correct answer.**

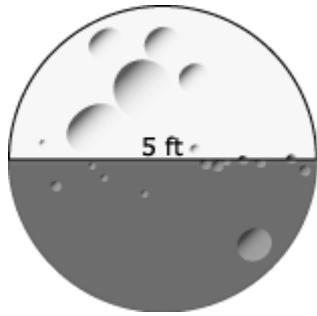
1. The annual budget of a small business is \$135,000. The business owner will spend  $\frac{3}{5}$  of the budgeted money on salaries for employees. Exactly how much money **remains** in the budget for expenses other than employee salaries?

- A. \$54,000
  - B. \$61,200
  - C. \$81,000
  - D. \$91,800
- 

2. Kim rents a storage unit. The area of the storage unit is  $56\frac{1}{2}$  square yards. The monthly cost per square yard is \$1.85. What is Kim's total cost to rent the storage unit for 3 months?

- A. \$104.53
  - B. \$169.50
  - C. \$311.91
  - D. \$313.58
- 

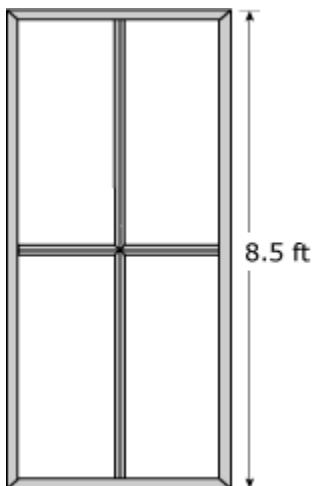
3. The students in a drama club used a circular piece of wood with a 5-foot diameter to display the moon on stage. They painted half of the piece of wood white to represent a half moon, as shown below.



What is the **approximate** area of the section of the moon the students painted white? (Use  $\pi = 3.14$ )

- A. 7.85  $\text{ft}^2$
- B. 9.81  $\text{ft}^2$
- C. 15.70  $\text{ft}^2$
- D. 39.26  $\text{ft}^2$

4. A construction worker is calculating the perimeter of the rectangular window shown below.



The area of the window is 34 square feet. What is the perimeter of the window?

- A. 4 ft.
  - B. 12.5 ft.
  - C. 25 ft.
  - D. 42.5 ft.
- 

5. A circular corral has an area of 2,000 square feet. What is the length of the radius of the corral to the **nearest** foot? (Use  $\pi = 3.14$ )

- A. 25 feet
  - B. 45 feet
  - C. 318 feet
  - D. 637 feet
- 

6. Georgia ran 2 laps around a circular lake near her house. The diameter of the lake is approximately 1,682 feet. What is the **approximate** total distance that Georgia ran? (Use  $\pi = 3.14$ )

- A. 841 feet
  - B. 2,640 feet
  - C. 3,364 feet
  - D. 10,563 feet
-

## Tested Indicator E

### Standard/Benchmark/Indicator

M.8.1.4.K2a-b N

Standard: Number and Computation

Benchmark: Computation

Indicator: Performs and explains these computational procedures with rational numbers: a) addition, subtraction, multiplication, and division of integers; b) order of operations (evaluates within grouping symbols, evaluates powers to the second or third power, multiplies or divides in order from left to right, then adds or subtracts in order from left to right)

### Explanation of Indicator

Compute with integers (positive and negative whole numbers and zero). Use order of operations when computing with rational numbers. (First work within grouping symbols; then find powers; then perform multiplication/division left to right; then perform addition/subtraction left to right.)

### Instructional Example

1. Have student figure the new temperature if at 10 pm the temperature outside is 20 F and during the night time hours the temperature fell another 12oF by 5 am.
2. If a golfer was -1 on 6 holes, even par on 10 holes, and +1 on the remaining 2 holes, what would be his net result after the holes?
3. If each of 10 atoms of a certain element contained a -1 charge what would be the net charge of all 10 atoms?

### Item Specification

Category 2: Perform Procedures: 2b. Do computational procedures or algorithms

Category 3: Demonstrate Understanding of Mathematical Ideas: 3a. Communicate mathematical ideas or rules and/or explain the process

### Assessment Item Example

Simplify:  $(-7) \cdot (-3)$ .

- A. -21
- B. -7/3
- C. 7/3
- D. 21

Correct Answer: D

### Teaching Tips—

Many people still use the mnemonic device, PEMDAS [Please Excuse My Dear Aunt Sally], to help them remember the correct order of operations.

**P**—Parentheses or other grouping symbols—do them first  
**E**—Exponents

**MD**—Do all multiplication and division from LEFT TO RIGHT  
**AS**—Do all addition and subtraction from LEFT TO RIGHT

Want something goofy to help with addition and subtraction of integers?  
(sing to the tune of Row, Row, Row Your Boat)

Same signs, add and keep, different signs, subtract. Take the sign of the bigger number and then it'll be exact. Change the minus to a plus, change the sign of next. Then all you do is add them up as if it were a plus!

**Grade 8 Mini Math Test #E**

Student Name \_\_\_\_\_

**Read each question below and circle the correct answer.**

- 1.** What is the value of  $-4 \bullet -2 - -2$ ?

- A. -10
  - B. -6
  - C. 6
  - D. 10
- 

- 2.** The share price of a company's stock was \$50 at the beginning of a year. The table below shows the stock's weekly share price changes (to the nearest dollar) over the first 5 weeks of the year.

**Weekly Price Changes**

Week	Price Change
1	+\$8
2	-\$2
3	-\$5
4	+\$3
5	-\$7

Based on the price changes shown in the table, what was the share price of the stock at the end of the five weeks?

- A. \$25
  - B. \$47
  - C. \$61
  - D. \$75
- 

- 3.** Simplify:  $(-3) \bullet (-12)$ .

- A. -36
  - B. -4
  - C. 4
  - D. 36
- 

- 4.** When a positive number greater than 1 is divided by -1, the result is

- A. less than 0.
  - B. equal to zero.
  - C. equal to 1.
  - D. greater than 1.
-

- 5.** What is the value the expression  $3(68 - (5 + 3)^2)$ ?

- A. 12
  - B. 63
  - C. 162
  - D. 216
- 

- 6.** An expression is shown below.

$$3\left(4 + \frac{1}{3}\right) + 2^3 - 7$$

What is the value of this expression?

- A.  $11\frac{1}{3}$
  - B. 12
  - C.  $13\frac{1}{3}$
  - D. 14
- 

- 7.** An expression is shown below.

$$4 - 1 + 3^2 \bullet 2$$

Which operation should be the first step in simplifying the expression?

- A.  $4 - 1$
  - B.  $1 + 3$
  - C.  $3^2$
  - D.  $3 \bullet 2$
- 

- 8.** When -2 is **subtracted from** a positive integer, the result is

- A. greater than 2.
  - B. between 1 and 2.
  - C. between 0 and 1.
  - D. less than 0.
-

## Tested Indicator F

### Standard/Benchmark/Indicator

M.8.2.2.A1a

Standard: Algebra

Benchmark: Variable, Equations, and Inequalities

Indicator: Represents real-world problems using: a) variables, symbols, expressions, one- or two-step equations with rational number coefficients and constants

### Explanation of Indicator

Use variables, symbols, expressions, or equations to represent unknown quantities to represent real world problems and solve using computation of addition, subtraction, multiplication, and/or subtraction of numbers that are positive and negative with decimals (that repeat or terminate), and fractions. A variable or symbol is used to represent an unknown and known numbers; the variable can be replaced for the number to solve.

### Instructional Example

1. Using menu at a restaurant have student write and solve an equation for the total cost of their meal if they want to purchase a various items from the menu such as a salad, hamburger, onion rings, and a root beer would be represented by  $\text{cost} = s + h + o + r$ .

2. Have student find the total number of bricks needed to cover a patio that measures 8 feet by 8 feet if one brick covers 32 square inches.

### Item Specification

Category 3: Demonstrate Understanding of Mathematical Ideas: 3b. Use representations to model mathematical ideas

Category 5: Solve Non-routine Problems/Make Connections: 5b. Apply mathematics in contexts outside of mathematics (whenever possible, include diagrams/visuals)

### Assessment Item Example

John always goes to sleep 2 hours after his dinner hour ( $d$ ). Which expression represents the time that John goes to sleep?

- A.  $2 - d$
- B.  $d - 2$
- C.  $d + 2$
- D.  $2d$

Correct Answer: C

### Teaching Tips—

When translating word problems into equations, follow these steps:

*Read the problem carefully.*

- Decide what the unknowns are
- Decide what the facts are

*Choose a variable and represent the unknowns.*

- Choose a variable for one unknown
- Write an expression for the other unknown using the variable and one of the facts

*Reread the problem and write the equation.*

- Use the facts from the problem to write an equation

*Check your work!*

Try to brainstorm lists of words that help your student know when to add, subtract, multiply, or divide. Add to that list during the year.

The *sum of 8 and x*—addition / A number *decreased by*—subtraction / One third of a number—multiplication / A number *divided into*—division

BE CAREFUL with phrases involving subtraction. "5 is less than x" can only be translated into  $x - 5$ , not  $5 - x$ .

## **Grade 8 Mini Math Test #F**

Student Name: \_\_\_\_\_

**Read each question below and circle the correct answer.**

- 1.** Donuts cost \$0.75 each. Which expression represents the cost of  $x$  donuts?

A.  $0.75 + x$

B.  $0.75 - x$

C.  $0.75x$

D.  $\frac{0.75}{x}$

---

- 2.** Frank's car can be driven 30 miles for each gallon of gas in its tank. Frank drives his car 210 miles on a trip. The number of gallons of gas used for this trip is equal to  $x$ . Which equation represents this situation?

A.  $30 + x = 210$

B.  $30 - x = 210$

C.  $30x = 210$

D.  $\frac{30}{x} = 210$

---

- 3.** Danielle buys a pair of jeans for 25% off the original price, and spends a total of \$35. Which equation could be used to find the original price of the jeans ( $x$ )?

A.  $x + 0.25 = 35$

B.  $x - 0.25 = 35$

C.  $x + 0.25x = 35$

D.  $x - 0.25x = 35$

---

- 4.** Joanne is 3.5 years younger than Sheryl. Sheryl is 14 years old. Which equation could be used to determine Joanne's age ( $x$ )?

A.  $3.5x = 14$

B.  $14x = 3.5$

C.  $x + 3.5 = 14$

D.  $x + 14 = 3.5$

---

**5.** The height of a building, in feet, is 8 more than 10 times the number of stories in the building. Which equation could be used to find the height of the building ( $h$ ) based on the number of stories ( $n$ ) in the building?

- A.  $n = 10h + 8$
  - B.  $h = 8n + 10$
  - C.  $n = 8h + 10$
  - D.  $h = 10n + 8$
- 

**6.** The average price of a 10-pound bag of potatoes in 1970 was 6 times more than it was in 1915. The price of a 10-pound bag of potatoes in 1970 was \$0.90. Which equation could be used to find the price of a 10-pound bag of potatoes ( $p$ ) in 1915?

- A.  $6 + p = \$0.90$
  - B.  $6 - p = \$0.90$
  - C.  $6p = \$0.90$
  - D.  $\frac{6}{p} = \$0.90$
- 

**7.** Patty has twice as many nickels as dimes in her pocket. The dimes and nickels in her pocket are worth a total of \$0.80. Which equation could be used to find the number of dimes ( $x$ ) in her pocket?

- A.  $\$0.10x + \$0.05(2x) = \$0.80$
  - B.  $\$0.10x - \$0.05(2x) = \$0.80$
  - C.  $\$0.10(2x) + \$0.05x = \$0.80$
  - D.  $\$0.10(2x) - \$0.05x = \$0.80$
- 

**8.** An animal shelter paid a total of \$143.70 on 6 bags of dog food. Which equation could be used to find the price ( $p$ ) of each bag of dog food?

- A.  $6 + p = \$143.70$
  - B.  $p - 6 = \$143.70$
  - C.  $6p = \$143.70$
  - D.  $\frac{p}{6} = \$143.70$
-

## Tested Indicator G

### Standard/Benchmark/Indicator

M.8.2.2.K3a

Standard: Algebra

Benchmark: Variable, Equations, and Inequalities

Indicator: Solves: a) one- and two-step linear equations in one variable with rational number coefficients and constants intuitively and/or analytically

### Explanation of Indicator

Find the solution to an equation. Students may choose to do this in any way that is successful and makes sense to them.

### Instructional Example

1. If 4 movie tickets cost \$24, how much would one cost ( $\$24 = 4x$ , where  $x$  is the cost of a movie ticket)?
2. If your parent/s are going to divide \$30 between you and your 3 siblings, how much would you receive?
3. If you make \$25 a week at mowing yards and you are saving for a skateboard that costs \$175, how many weeks will you need to save in order to purchase the skateboard?

### Item Specification

Category 2: Perform Procedures: 2d. Solve equations, formulas, or routine word problems

### Assessment Item Example

An equation is shown below.

$$17.1 = 4.5h + 1.8$$

What is the value of  $h$  in the equation?

- A.  $h = 2.0$
- B.  $h = 3.4$
- C.  $h = 3.8$
- D.  $h = 4.2$

Correct Answer: B

### Teaching Tips—

When teaching, it would be a good idea to have your student work out all the steps in solving an equation ON PAPER. Although some students can do some or all of the work in their head, as the equations gets more involved, it is wise to write each step down. Also, if there is a mistake made, you can find it more easily as you look through the specific steps.

$X + 5 = 20$  is easy to do in your head. Practicing how to show steps on simple problems will help your student later. The most challenging part of solving equations seems to be keeping organized in order to remember what step comes next.

In this problem, you would ask "What is the inverse operation?" It is subtraction. So, you would need to subtract 5 from both sides of the equal sign.

$$\begin{array}{rcl} X + 5 & = & 20 \\ - 5 & & -5 \\ \hline X & = & 15 \end{array}$$

Then, students will better know how to organize their information as the problems get more difficult.

$$35 = 5(r - 24)$$

$$35 = 5(r) - 5(24)$$

$$\begin{array}{rcl} 35 & = & 5r - 120 \\ +120 & & +120 \end{array}$$

$$155 = 5r$$

$$\frac{155}{5} = \frac{5r}{5}$$

$$31 = r$$

## **Grade 8 Mini Math Test #G**

Student Name: \_\_\_\_\_

**Read each question below and circle the correct answer.**

$$\frac{1}{2}f + \frac{1}{4}f = 3$$

- 1.** What is the value of  $f$  in the equation  $\frac{1}{2}f + \frac{1}{4}f = 3$ ?
- A. 4
  - B. 9
  - C. 18
  - D. 24
- 

- 2.** What is the value of  $x$  in the equation  $2.5x = 20$ ?

- A. 0.8
  - B. 8
  - C. 17.5
  - D. 22.5
- 

$$9 = \frac{1}{3}x + 6$$

- 3.** What is the value of  $x$  in the equation  $9 = \frac{1}{3}x + 6$ ?
- A. 1
  - B. 3
  - C. 5
  - D. 9
- 

- 4.** What is the value of  $x$  in the equation  $6x - 6 = 42$ ?

- A. 6
  - B. 7
  - C. 8
  - D. 9
- 

- 5.** What is the value of  $x$  in the equation  $7 - 0.5x = 14$ ?

- A. -14
  - B. -3.5
  - C. 3.5
  - D. 14
- 

- 6.** What is the value of  $x$  in the equation  $75 - 3x = 63$ ?

- A. -46
- B. -4
- C. 4
- D. 46

- 7.** The equation below can be used to determine the total number of books in Mike's book collection ( $m$ ).

$$\frac{m}{5} = 10$$

What is the total number of books in the collection?

- A. 2 books
  - B. 5 books
  - C. 15 books
  - D. 50 books
- 

- 8.** The total cost of a dining set with a table and 4 chairs is \$464. The table costs \$232. The chairs are identical, and the cost for each chair is identical. The equation  $4c + 232 = 464$  can be used to determine the cost, in dollars, of each chair ( $c$ ). How much does each chair cost?

- A. \$29
  - B. \$58
  - C. \$116
  - D. \$232
- 

$$\frac{1}{3}n + \frac{4}{3} = 4$$

- 9.** What is the value of  $n$  in the equation  $\frac{1}{3}n + \frac{4}{3} = 4$ ?

- A.  $\frac{12}{5}$
  - B. 8
  - C.  $\frac{32}{3}$
  - D. 16
- 

- 10.** What is the value of  $n$  in the equation  $3n - 6 = 15$ ?

- A. 3
  - B. 5
  - C. 7
  - D. 8
-

## Tested Indicator H

### Standard/Benchmark/Indicator

M.8.2.3.A3

Standard: Algebra

Benchmark: Functions

Indicator: Translates between the numerical, tabular, graphical, and symbolic representations of linear relationships with integer coefficients and constants

### Explanation of Indicator

Change (translate) between numerical, tabular, graphical, and symbolic representations of a set of data that is linear.

### Instructional Example

Have student represent a variety of situations such as the following:

A fish tank is being filled with water with 2-liter jugs. There are already 5 liters of water in the fish tank.

Therefore, you are showing how full the tank is as you empty another 2-liter jug of water into it.

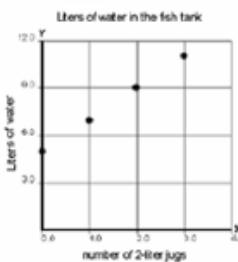
symbolic –

$$y = 2x + 5$$

tabular –

X	0	1	2	3
Y	5	7	9	11

graphical –



### Item Specification

Category 2: Perform Procedures: 2f. Read or produce graphs and tables

Category 3: Demonstrate Understanding of Mathematical Ideas: 3e. Show and/or explain relationships between models, diagrams, and/or other representations

Category 5: Solve Non-routine Problems/Make Connections: 5b. Apply mathematics in contexts outside of mathematics (whenever possible, include diagrams/visuals)

### Assessment Item Example

Alex set up a lemonade stand outside his house. He found that his profit after 4 hours, including the money he spent on supplies, could be represented by the equation  $5x = y + 4$ . Which table shows his profit ( $y$ ) at the end of each hour ( $x$ )?

A.

x	0	1	2	3	4
y	-5	-1	3	7	11

C.

x	0	1	2	3	4
y	5	1	-3	-7	-11

B.

x	0	1	2	3	4
y	4	-1	-6	-11	-16

D.

x	0	1	2	3	4
y	-4	1	6	11	16

Correct Answer: D

### Teaching Tip—

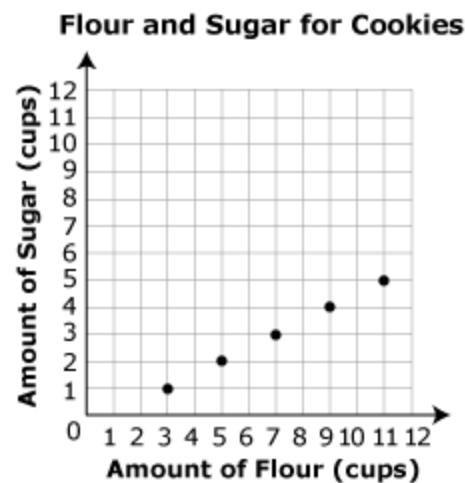
Your student will need to understand how to solve and understand equations and how they relate to information found in tables and graphs.

## Grade 8 Mini Math Test #H

Student Name \_\_\_\_\_

**Read each question below and circle the correct answer.**

1. When making several batches of cookies, Keisha noticed a relationship between the amount of flour and the amount of sugar in each batch. She created the graph below to show this relationship.



Which equation represents the relationship between the amount of flour ( $f$ ) and the amount of sugar ( $s$ ) as shown in the graph?

- A.  $s = 2f + 1$
- B.  $2s = f + 1$
- C.  $f = 2s + 1$
- D.  $3f = s + 1$

- 
2. Marta's baby sitter charges \$3 per hour plus a flat fee of \$5 each time she baby sits.

Marta wrote the equation  $p = 3h + 5$  to represent the relationship between the babysitter's total pay ( $p$ ) and the number of hours she baby sits ( $h$ ). Which table correctly shows this relationship?

- A. 

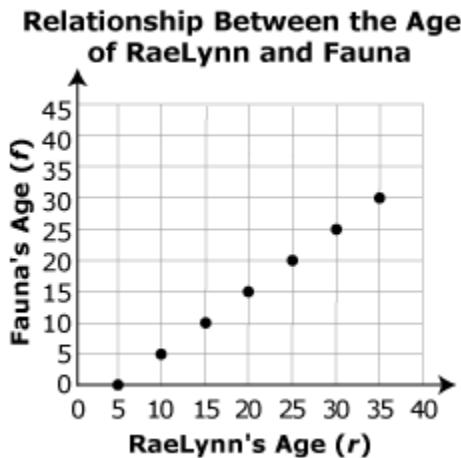
<b><math>h</math></b>	2	3	4	5
<b><math>p</math></b>	\$6	\$9	\$12	\$15
- B. 

<b><math>h</math></b>	2	3	4	5
<b><math>p</math></b>	\$11	\$14	\$17	\$20
- C. 

<b><math>h</math></b>	2	3	4	5
<b><math>p</math></b>	\$3	\$6	\$9	\$12
- D. 

<b><math>h</math></b>	2	3	4	5
<b><math>p</math></b>	\$8	\$11	\$14	\$17

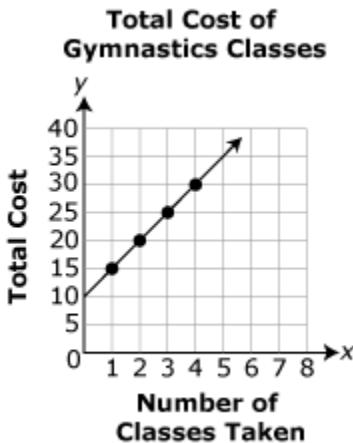
3. RaeLynn created the graph below to show the relationship between her age ( $r$ ) and the age of her sister Fauna ( $f$ ).



Which equation best represents the relationship between  $r$  and  $f$ ?

- A.  $r = 2f$       B.  $f = \frac{1}{2}r$   
C.  $r = f - 5$       D.  $f = r - 5$

4. After paying an enrollment fee, the cost for a gymnastics class is \$5 per class. The enrollment fee is \$10. The graph below shows the relationship between the number of classes taken ( $x$ ) and the total cost ( $y$ ) of taking gymnastics classes, including the enrollment fee.



Which equation describes the relationship between  $x$  and  $y$ ?

- A.  $y = x + 5$       B.  $y = x + 15$   
C.  $y = 5x + 10$       D.  $y = 10x + 5$

## Tested Indicator I

### Standard/Benchmark/Indicator

M.8.2.4.A2

Standard: Algebra

Benchmark: Models

Indicator: Determines if a given graphical, algebraic, or geometric model is an accurate representation of a given real-world situation

### Explanation of Indicator

Mathematical models are representations of some type of situation within a mathematical situation. They can be graphical (such as a picture representing 10,000 people in a report of population), algebraic (such as a formula to represent the area of a circle), or geometric (such as a geometric shape on a balance scale represents a given weight).

### Instructional Example

1. Have student solve problems such as if the cost of two shirts (represented picture of two shirts) that equal the price of one pair of pants (represented by picture of a pair of pants), then ask if you wanted to buy six shirts, how many pairs of pants could be purchased with the same amount of money?
2. If the formula for the area of a triangle is  $A = \frac{1}{2} b \cdot h$  (where A = Area, b = length of base of triangle, and h = height of triangle), have student measure triangles and find the area given the formula.

### Item Specification

Category 3: Demonstrate Understanding of Mathematical Ideas: 3e. Show and/or explain relationships between models, diagrams, and/or other representations

Category 4: Conjecture/Generalize/Prove: 4f. Identify faulty arguments or identify misrepresentations of data

Category 5: Solve Non-routine Problems/Make Connections: 5b. Apply mathematics in contexts outside of mathematics (whenever possible, include diagrams/visuals)

### Assessment Item Example

Each week, Joe saves \$5 less than the amount Karen saves. Using  $j$  for the amount Joe saves and  $k$  for the amount Karen saves, which equation correctly shows the relationship between the amounts they save each week?

- A.  $j = 5 \cdot k$
- B.  $j = k - 5$
- C.  $k = 5 \cdot j$
- D.  $k = j - 5$

Correct Answer: B

### Teaching Tip—

You should always encourage your student to read the directions and all the possible answers correctly. But certainly a problem like this is designed to have some possible answers be choices that the test-makers think someone might select if they made a mistake. Yes, there can be answers designed to trick you! So, just because the answer is among the 4 choices, it doesn't necessarily mean that it is the correct one. Encourage (and model) taking time to go through each choice.

## Grade 8 Mini Math Test # I

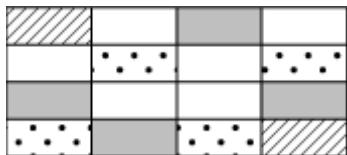
Student Name \_\_\_\_\_

**Read each question below and circle the correct answer.**

- 1.** Gwen scored 7 less than 5 times as many points playing basketball in her senior year as she did in her junior year. The number of points Gwen scored in her junior year is represented by  $p$ . Which expression could **not** be used to determine the number of points Gwen scored in her senior year?

- A.  $7 - 5p$   
B.  $5p - 7$   
C.  $5p - 5 - 2$   
D.  $p + p + p + p + p - 7$
- 

- 2.** A probability experiment has 4 different outcomes. Each of the outcomes has an equally likely chance of occurring. Alexander incorrectly drew the diagram below to represent this situation.

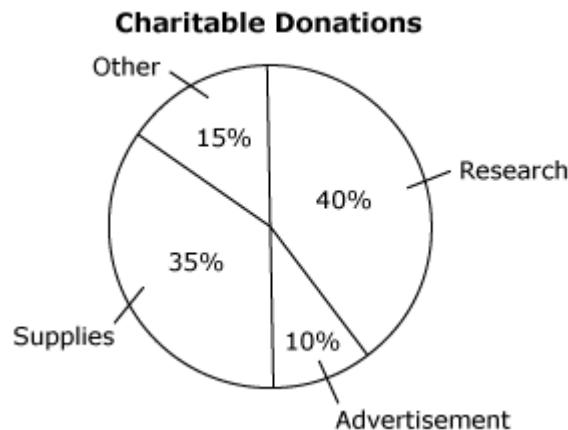


Key	
<input type="checkbox"/>	= 1st outcome
<input type="checkbox"/>	= 2nd outcome
<input type="checkbox"/>	= 3rd outcome
<input type="checkbox"/>	= 4th outcome

Which mistake could have Alexander have made?

- A. There are too many sections representing the 1st outcome.  
B. There are too many sections representing the 2nd outcome.  
C. The total number of sections in the diagram is not divisible by 4.  
D. There are more than 4 different outcomes represented in the diagram.
-

- 3.** The circle graph below shows the different programs that are funded by donations to a charity, and the percent of each dollar spent on those programs.



If  $t$  dollars were donated to the charity, which expression could **not** be used to determine the number of dollars spent on research?

- A.  $\frac{1}{5}t$
  - B.  $\frac{2}{5}t$
  - C.  $(0.2 + 0.2)t$
  - D.  $(0.4)t$
- 

- 4.** Mary is going to receive a 3% increase in her current salary ( $c$ ). She incorrectly wrote the equation below to determine the amount of her new salary ( $n$ ).

$$n = 0.03c$$

Which mistake did Mary make?

- A. She multiplied 0.03 by  $c$  instead of adding 0.03 to  $c$ .
  - B. She used 0.03 instead of 3 to represent 3% in the equation.
  - C. She confused the variables and multiplied 0.03 by  $c$  instead of 0.03 by  $n$ .
  - D. She forgot to add the amount of her current salary to the right side of the equation.
-

## Tested Indicator J

<b>Standard/Benchmark/Indicator</b> M.8.3.1.A1a <u>Standard:</u> Geometry <u>Benchmark:</u> Geometric Figures and Their Properties <u>Indicator:</u> Solves real-world problems by: a) using the properties of corresponding parts of similar and congruent figures
<b>Explanation of Indicator</b> Solve real-world problems using knowledge that congruent figures are the same exact shape and size and their corresponding sides are the same length and their areas are the same. Solve real-world problems using knowledge that similar figures are the same exact shape and their corresponding sides are proportional in length and their areas are proportional to the increase in the sides.
<b>Instructional Example</b> Have student use scale drawings, map keys, proportions, and indirect measures to find unknown quantities in a variety of situations.
<b>Item Specification</b> Category 2: Perform Procedures: 2d. Solve equations, formulas, or routine word problems Category 5: Solve Non-routine Problems/Make Connections: 5b. Apply mathematics in contexts outside of mathematics (whenever possible, include diagrams/visuals)
<b>Assessment Item Example</b> The scale on a floor plan of a house is 1 inch = 4 feet. If the length of the hallway on the floor plan is 4.25 inches, what is the <b>actual</b> length of the hallway in the house?  <b>A.</b> 8.25 feet <b>B.</b> 16.25 feet <b>C.</b> 17.00 feet <b>D.</b> 21.00 feet  Correct Answer: C

### Teaching Tip—

It is important to understand how to set up these kinds of problems. Help your student look for key terms to show them how to set it up. Knowing “what to do” on these problems seems to be the main problem students encounter. Make sure they have plenty of practice so they are not frustrated. ☺

## Grade 8 Mini Math Test #J

Student Name: \_\_\_\_\_

**Read each question below and circle the correct answer.**

1. The scale drawing Devin made of his rectangular bedroom is shown below.



Key
1 inch = 2 feet

What are the **actual** dimensions of Devin's bedroom?

- A. 5.8 feet by 6 feet
- B. 7.8 feet by 6 feet
- C. 8.8 feet by 6 feet
- D. 11.6 feet by 6 feet

- 
2. A working model of the San Francisco Bay uses a vertical scale of 12 inches:100 feet (ft.). The depth of the water in one location of the model is 3 inches. What is the actual depth of water represented by this location of the model?

- A. 4 ft.
- B. 25 ft.
- C. 36 ft.
- D. 288 ft.

- 
3. Corrine looked at a map where 1 centimeter (cm) represented 2.5 miles (mi). On the map, the distance from her house to her school was 0.8 cm. Exactly how many miles from her house is her school?

- A. 0.32 mi
  - B. 2.00 mi
  - C. 3.13 mi
  - D. 4.50 mi
-

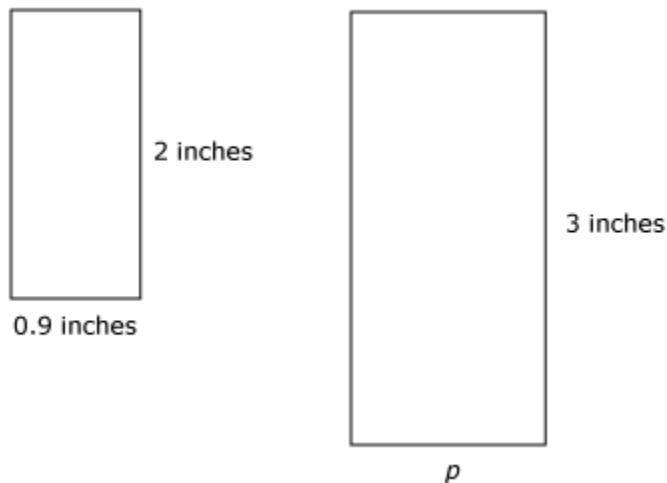
**4.** Alan is making a scale model of the Statue of Liberty, using a scale of 1 inch (in) = 8.75 feet (ft.). The waist of the actual statue is 35 ft. thick. How many inches thick should the waist of Alan's model be?

- A. 2 in
  - B. 4 in
  - C. 43.75 in
  - D. 306.25 in
- 

**5.** The length of a room on a scale drawing is 7.5 inches. The actual length of the room is 15 feet. Which scale could have been used for the drawing?

- A. 1 inch:6 feet
  - B. 1.5 inches:3 feet
  - C. 2 inches:5 feet
  - D. 2.5 inches:2 feet
- 

**6.** Regina drew two similar figures on her paper. The figures, with some of the dimensions, are shown below.



What is the length of side  $p$ ?

- A. 0.60 inches
  - B. 1.35 inches
  - C. 1.50 inches
  - D. 2.40 inches
-

## Tested Indicator K

### Standard/Benchmark/Indicator

M.8.3.1.K6a-b

Standard: Geometry

Benchmark: Geometric Figures and Their Properties

Indicator: Uses the Pythagorean theorem: a) determine if a triangle is a right triangle; b) find a missing side of a right triangle where the lengths of all three sides are whole numbers

### Explanation of Indicator

The Pythagorean Theorem is a formula that states that if a triangle is a right triangle (has a  $90^\circ$  angle), then the sum of the squares of the two legs is equal to the square of the hypotenuse (the side opposite the right angle). Decide if a triangle is a right triangle. Find the missing side on a right triangle. The formula is  $a^2 + b^2 = c^2$ .

### Instructional Example

If a rectangle room is divided into equal parts by cutting a diagonal from one corner to the other, what would the length of the diagonal be if the room measures 9 feet by 12 feet?

### Item Specification

Category 2: Perform Procedures: 2d. Solve equations, formulas, or routine word problems

### Assessment Item Example

Which 3 measurements could be the dimensions of a **right** triangle?

$$a^2 + b^2 = c^2$$

- A. 20 in, 21 in, 29 in
- B. 8 in, 15 in, 23 in
- C. 12 in, 24 in, 48 in
- D. 5 in, 10 in, 15 in

Correct Answer: A

### Teaching Tip—

For any right triangle, the square of the length of the hypotenuse equals the sum of the squares of the lengths of the legs.

$$(a^2 + b^2 = c^2)$$

. C is the hypotenuse.

## Grade 8 Mini Math Test #K

Student Name: \_\_\_\_\_

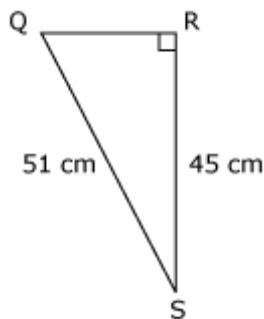
**Read each question below and circle the correct answer.**

1. The sides of triangle FGH measure 7, 24, and 25 units. The sides of triangle MNP measure 15, 36, and 39 units. Which statement about the triangles is true?

$$(a^2 + b^2 = c^2)$$

- A. Both triangles are right triangles.
  - B. Neither triangle is a right triangle.
  - C. Only triangle FGH is a right triangle.
  - D. Only triangle MNP is a right triangle.
- 

2. A right triangle is shown below.



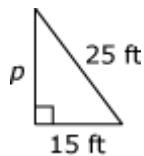
- What is the length of side QR?  $(a^2 + b^2 = c^2)$

- A. 12 cm
  - B. 24 cm
  - C. 36 cm
  - D. 86 cm
- 

3. The legs of a right triangle are 5 inches (in) and 12 in long. What is the length of the hypotenuse of this triangle?  $(a^2 + b^2 = c^2)$

- A. 11 in
  - B. 13 in
  - C. 15 in
  - D. 17 in
-

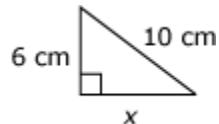
- 4.** The diagram below shows a right triangle.



What is the missing length ( $p$ )?  $(a^2 + b^2 = c^2)$

- A. 10 ft.
  - B. 14 ft.
  - C. 20 ft.
  - D. 29 ft.
- 

- 5.** The measures of two sides of a right triangle are shown below.



What is the missing length ( $x$ ) of the side of the triangle?  $(a^2 + b^2 = c^2)$

- A. 4 cm
  - B. 8 cm
  - C. 10 cm
  - D. 16 cm
- 

- 6.** One leg of a right triangle is 8 inches long. The other leg of the triangle is 15 inches long.

What is the length of the hypotenuse of the triangle?  $(a^2 + b^2 = c^2)$

- A. 7 inches
  - B. 13 inches
  - C. 17 inches
  - D. 23 inches
-

## Tested Indicator L

### Standard/Benchmark/Indicator

M.8.3.4.K1a-d

Standard: Geometry

Benchmark: Geometry from an Algebraic Perspective

Indicator: Uses the coordinate plane to: a) list several ordered pairs on the graph of a line and find the slope of the line; b) recognize that ordered pairs that lie on the graph of an equation are solutions to that equation; c) recognize that points that do not lie on the graph of an equation are not solutions to that equation; d) determine the length of a side of a figure drawn on a coordinate plane with vertices having the same x- or y- coordinates

### Explanation of Indicator

On the graph of a line, list points on the line. Recognize these points (ordered pairs) as solutions to the equation. Find the slope (rate of change) of the graph. From a figure drawn on the graph, find the length of a side given two points.

### Instructional Example

Have student find a line graph in a newspaper to identify points that are on the graph and points that are not on the graph.

Have student find the slope of the graph (rate of change) either positive (going up from left to right) or negative (going down from left to right).

### Item Specification

Category 1: Memorize Facts/Definitions/Formulas: 1b. Recall or recognize mathematical terms, definitions, or concepts

Category 2: Perform Procedures: 2b. Do computational procedures or algorithms

### Assessment Item Example

The point (3, 2) lies on the graph of an equation. Which statement **best** describes the ordered pair (3, 2)?

- A. It is the y-intercept of the graph.
- B. It is a solution of the equation.
- C. It is the x-intercept of the graph.
- D. It is the slope of the equation.

Correct Answer: B

## Teaching Tips—

Slope is a challenging topic to teach too many students.

Slope is like the steepness of a line.... Slope is  $\frac{\text{rise}}{\text{run}}$

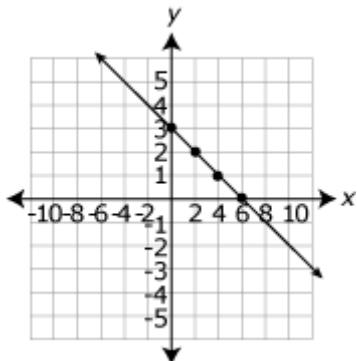
If you just emphasize that you need to memorize the formula, the understanding part may come later. Simply memorizing and implementing the formula takes a lot of practice!

## Grade 8 Mini Math Test #L

Student Name: \_\_\_\_\_

**Read each question below and circle the correct answer.**

1. A line is graphed on the coordinate plane shown below.



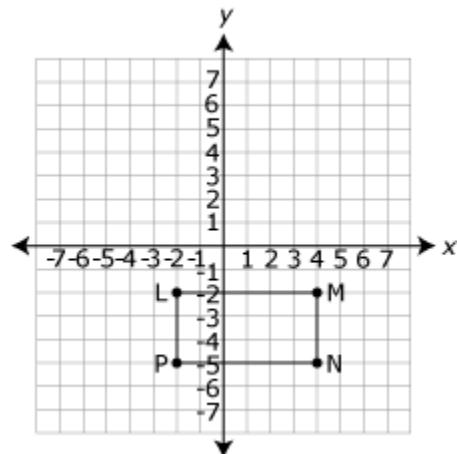
What is the slope of the line?

- A. -2
  - B.  $-\frac{1}{2}$
  - C.  $\frac{1}{2}$
  - D. 2
- 

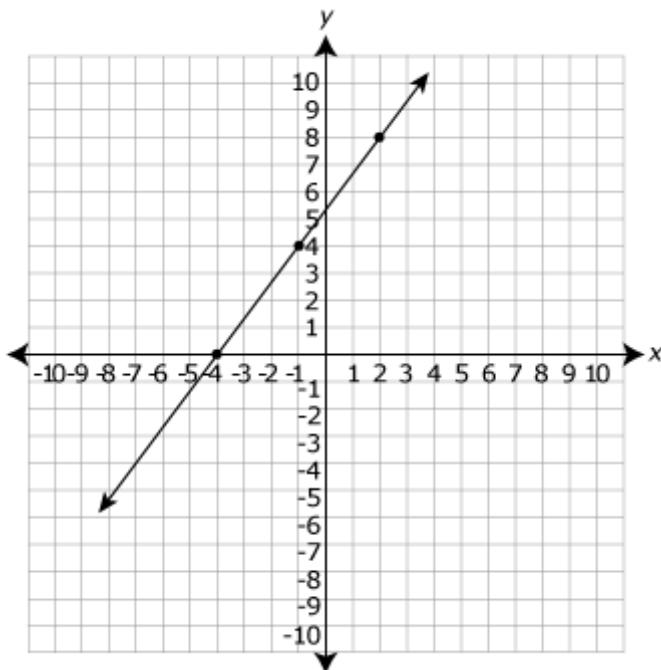
2. A rectangle is shown on the coordinate plane.

What is the length of  $\overline{PN}$ ?

- A. 2 units
- B. 3 units
- C. 4 units
- D. 6 units



- 3.** The graph of a line is shown below.



What is the slope of the line?

- A.  $-\frac{4}{3}$
  - B.  $-\frac{3}{4}$
  - C.  $\frac{3}{4}$
  - D.  $\frac{4}{3}$
- 

- 4.** The point  $(1, 3)$  lies on the graph of a line. Which statement about the ordered pair  $(1, 3)$  is true?

- A. It is the  $x$ -intercept of the graph of the line.
  - B. It is the  $y$ -intercept of the graph of the line.
  - C. It is the only solution of the equation that describes the line.
  - D. It is one of many solutions of the equation that describes the line.
-

## Tested Indicator M

### Standard/Benchmark/Indicator

M.8.4.1.A4a

Standard: Data

Benchmark: Probability

Indicator: Makes predictions based on the theoretical probability a) a simple event in an experiment or simulation

### Explanation of Indicator

Theoretical probability is the expected probability in an experiment. If a die is rolled, each number 1 - 6 has a 1/6 probability of being rolled. If a die is rolled 300 times it is expected that a 6 would be rolled 50 times ( $1/6 \cdot 300 = 50$  times).

### Instructional Example

Play board games with a die and discuss with them how many 2's can be expected in 60 rolls. If a coin is flipped 100 times, what would the expected number of heads and tails be?

### Item Specification

Category 3: Demonstrate Understanding of Mathematical Ideas: 3c. Explain findings and/or results from data analysis strategies or experiments/simulations

Category 4: Conjecture/Generalize/Prove: 4a. Determine the truth of a mathematical pattern, a mathematical statement, and/or proposition or make predictions

Category 5: Solve Non-routine Problems/Make Connections: 5b. Apply mathematics in contexts outside of mathematics (whenever possible, include diagrams/visuals)

### Assessment Item Example

The faces of a cube are numbered 1 through 6. The cube is rolled 60 times. Which is the **best** prediction of the number of times the cube is expected to land with a 4 facing up?

- A** 5 times
- B** 6 times
- C** 10 times
- D** 15 times

Correct Answer: C

## Teaching Tips—

Theoretical probability is just the probability of an event happening, according to everything we know.

Experimental probability is when you or someone else performs an actual experiment and shares the results.

In the following Mini Math Test, problem #1 is looking at experimental probability; Gina rolled the number cube 100 times and recorded the results in the table. Problem #2 is looking for the theoretical probability; What would the chances be based on the information given?

## **Grade 8 Mini Math Test #M**

Student Name: \_\_\_\_\_

**Read each question below and circle the correct answer.**

- 1.** Gina has a 6-sided number cube with its sides labeled 7, 8, 8, 9, 10, and 10. She rolled the number cube 100 times and recorded the number of times she rolled each number. Which table shows the results that Gina **most** likely recorded?

**Gina's Results**

Number	7	8	9	10
Frequency	25	25	25	25

A.

**Gina's Results**

Number	7	8	9	10
Frequency	30	20	30	20

B.

**Gina's Results**

Number	7	8	9	10
Frequency	17	32	16	35

C.

**Gina's Results**

Number	7	8	9	10
Frequency	49	28	2	21

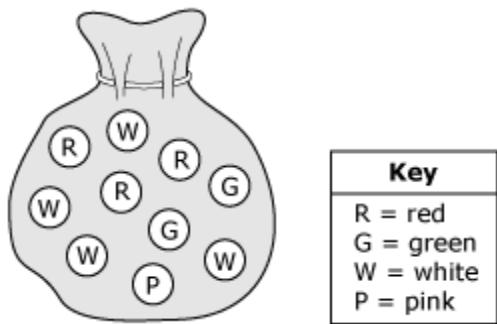
D.

---

- 2.** There are 56 jelly beans in a bag. Exactly 14 of the jelly beans are red. The theoretical probability of randomly selecting a red jelly bean from the bag is

- A.  $\frac{1}{4}$  because there are 14 red jelly beans out of a total 56.
- B.  $\frac{3}{4}$  because there are 42 non-red jelly beans out of a total 56.
- C.  $\frac{1}{3}$  because there are 14 red jelly beans compared to 42 non-red jelly beans.
- D.  $\frac{1}{14}$  because one red jelly bean is picked from 14 red jelly beans.
-

3. There are 10 colored marbles in a bag, as shown below.



Kayla performed an experiment by randomly selecting a marble from the bag, recording the color, and returning it to the bag. She did this 20 times. The results of her experiment are shown in the table below.

Color	Number of Times
Green	
Pink	
Red	
White	

Which color of marble was chosen the **same** number of times in the experiment as would be predicted by its theoretical probability?

- A. The green marble since both the experimental and theoretical probability equal  $\frac{1}{4}$ .
- B. The pink marble since both the experimental and theoretical probability equal  $\frac{1}{10}$ .
- C. The red marble since both the experimental and theoretical probability equal  $\frac{3}{10}$ .
- D. The white marble since both the experimental and theoretical probability equal  $\frac{2}{5}$ .

## Tested Indicator N—

### Standard/Benchmark/Indicator

M.8.4.1.K3

Standard: Data

Benchmark: Probability

Indicator: Finds the probability of a compound event composed of two independent events in an experiment, simulation, or situation

### Explanation of Indicator

Find probability (likelihood of something happening) of two independent (not related or dependent) events happening concurrently (at the same time) or consecutively (one after the other).

### Instructional Example

1. Have student roll two dice and figure the probability of rolling a 1 on the first die and a 6 on the second die ( $1/6 \bullet 1/6 = 1/36$ ).
2. If a student has 4 different pairs of socks that are separated into two piles with each matching sock being in the other pile, what would the probability of getting a pair when drawing one sock from each pile while blindfolded.

### Item Specification

Category 2: Perform Procedures: 2b. Do computational procedures or algorithms

### Assessment Item Example

Two number cubes are each numbered 1 through 6. If the two number cubes are rolled, what is the **probability** that both number cubes land with a 5 facing up?

- A. **1/36**
- B. **1/25**
- C. **1/12**
- D. **1/5**

Correct Answer: A

## Teaching Tips—

Making lists or tree diagrams can help keep this information organized.

An envelope contains 4 cards marked D, E, F, and G. If you pick a card and put it back and then choose another card, what is the theoretical probability that you would pick E first and then F?

The probable outcomes of this experiment are:

DE	EE	FE	GE
DF	<b>EF</b>	FF	GF
DG	EG	FG	GG
DD	ED	FD	GD

There are 16 possibilities. EF is 1 out of 16 choices, so the answer is 1/16.

This is what is called an **independent event**. The first event has no effect on the second effect.

An envelope contains 4 cards marked D, E, F, and G. If you pick a card and do NOT put it back and then choose another card, what is the theoretical probability that you will pick E then F?

Here it is a little different.

You draw one card and let's say it is an E

Then, you DON'T put it back in. That is the key difference.

Now, you only have three cards left (D, F, and G).

So, your choices could have been

DE	<b>EF</b>	GD	FG
DF	EG	GE	FD
DG	ED	GF	FE

There are only 12 choices this time, because you cannot choose DD, EE, FF, or GG since you didn't return the card to the envelope. So, the answer is 1/12.

This is called a **dependent event**, as the first event *does* affect the second event.

## Grade 8 Mini Math Test #N

Student Name: \_\_\_\_\_

**Read each question below and circle the correct answer.**

- 1.** In a bag containing 8 marbles, there are 3 red marbles, 2 green marbles, 2 blue marbles, and 1 white marble. A marble is randomly selected from the bag and then replaced. A marble is again randomly selected from the bag. What is the probability that both marbles selected from the bag are green marbles?

A.  $\frac{1}{64}$

B.  $\frac{1}{32}$

C.  $\frac{1}{16}$

D.  $\frac{1}{4}$

---

- 2.** Two six-sided number cubes, each numbered 1 through 6, are rolled at the same time. The table below shows all of the possible combinations of the two numbers landing face up when the number cubes are rolled.

	1	2	3	4	5	6
1	1 1	1 2	1 3	1 4	1 5	1 6
2	2 1	2 2	2 3	2 4	2 5	2 6
3	3 1	3 2	3 3	3 4	3 5	3 6
4	4 1	4 2	4 3	4 4	4 5	4 6
5	5 1	5 2	5 3	5 4	5 5	5 6
6	6 1	6 2	6 3	6 4	6 5	6 6

After the two cubes are rolled, the numbers that land face up on the cubes are added together. What is the probability that the two numbers that land face up have a sum of 6?

- A.  $\frac{1}{36}$
- B.  $\frac{5}{36}$
- C.  $\frac{6}{36}$
- D.  $\frac{12}{36}$
-

**3.** Karen has a flat key chain with a red side and a blue side. Karen is going to randomly toss her key chain into the air **twice** and see which color lands face up each time. What is the **probability** the key chain lands with the red side face up both times?

- A.  $\frac{1}{8}$   
B.  $\frac{1}{6}$   
C.  $\frac{1}{4}$   
D.  $\frac{1}{2}$
- 

**4.** In a box containing 12 buttons, there are 4 blue buttons, 5 red buttons, and 3 white buttons. A button is randomly selected from the box and then replaced. A button is again randomly selected from the box. What is the probability that the first button selected is blue and the second button selected is white?

- A.  $\frac{1}{24}$   
B.  $\frac{1}{12}$   
C.  $\frac{1}{9}$   
D.  $\frac{1}{7}$
- 

**5.** Two number cubes each with faces numbered 1 through 6 are tossed. What is the **probability** of one cube landing with the number 2 facing up and the other cube landing with the number 3 facing up?

- A.  $\frac{1}{36}$   
B.  $\frac{1}{6}$   
C.  $\frac{1}{5}$   
D.  $\frac{2}{3}$
-

## Tested Indicator O

### Standard/Benchmark/Indicator

M.8.4.2.K3

Standard: Data

Benchmark: Statistics

Indicator: Determines and explains the measure of central tendency (mode, median, mean) for a rational number data set

### Explanation of Indicator

Calculate mean, median, and mode for a set of numbers. Mean is the sum of the values divided by the number of values, median is middle value when all values are ordered, and mode is the value that appears the most

### Instructional Example

Student will collect a set of numerical data, compute mean, median, and mode, explain which measure would be the best to use to represent the data norm, and also determine if they could be used by some to misrepresent a set of data.

### Item Specification

Category 2: Perform Procedures: 2b. Do computational procedures or algorithms

Category 3: Demonstrate Understanding of Mathematical Ideas: 3c. Explain findings and/or results from data analysis strategies or experiments/simulations

### Assessment Item Example

Jake recorded the average speed in miles per hour (mph) of eight cars, as shown below.

#### Car Speeds

Car	Speed (mph)
-----	----------------

1	45
2	54
3	59
4	62
5	50
6	55
7	62
8	77

What is the **median** average speed of the cars shown in the table?

- A. 55 mph
- B. 57 mph
- C. 59 mph
- D. 62 mph

Correct Answer: B

## Teaching Tips—

Studying for central tendency involves memorization, and three of the words start with M!! Students OFTEN get them confused on the actual assessment.

Some tricks that might work:

**MODE**

- **To find the mode,** you look for the data that occur the *most* in a set.
- Mode has four letters like the word 'MOST.'

### MEDIAN

- **To find the median,** you line up all the data from smallest to largest and then find out what number is in the exact middle. That number is the median of the set of data. If there are two numbers in the middle, then you add them together and divide by 2 and that is the median.
- Median is the middle number.
- It is like a MEDIAN in the road, which is also in the 'middle.' [Go outside to a median in your town and take a picture of your student or students on the median. Put it up on a wall in your house to remind them that the median is the middle number.]

### RANGE

- **To find the range,** you write down the largest and smallest data (number) and subtract.
- No real trick to finding this number. It is just the RANGE of data.

### MEAN

- **To find the mean,** you add all the data (numbers) to get the sum. Next, you divide the sum by the number of data (numbers) you added. Then answer is the mean.
- Some people call the mean, the average.
- This one is the MEANest!!!! You have to do sooooo much more work to find this number!

## Grade 8 Mini Math Test #O

Student Name \_\_\_\_\_

**Read each question below and circle the correct answer.**

1. The lengths of eight earthworms, in inches, are listed below.

$7\frac{1}{5}$     $5\frac{9}{10}$     $6\frac{3}{10}$     $5\frac{9}{10}$     $5\frac{4}{5}$     $6\frac{3}{5}$     $6\frac{7}{10}$     $6\frac{4}{5}$

What is the **median** length of the earthworms in inches?

- A.  $5\frac{9}{10}$  inches  
B.  $6\frac{2}{5}$  inches  
C.  $6\frac{9}{20}$  inches  
D.  $7\frac{1}{5}$  inches
- 

2. The weights, in ounces, of seven different basketballs are listed below.

20.5 20.8 21.9 21.4 21.9 20.9 20.2

What is the **mean** weight of the basketballs to the nearest tenth of an ounce?

- A. 20.9 ounces  
B. 21.1 ounces  
C. 21.4 ounces  
D. 21.9 ounces
- 

3. The number of people who attended the 5 performances of a school play are listed below.

415 336 440 324 395

What is the **mean** number of people who attended each performance?

- A. 318 people  
B. 324 people  
C. 382 people  
D. 395 people
-

- 4.** The prices for 5 different place settings are shown in the table below.

**Price of Place Settings**

<b>Set</b>	<b>Price</b>
1	\$38.00
2	\$54.00
3	\$85.00
4	\$45.00
5	\$76.00

What is the **median** price?

- A. \$38.00
  - B. \$54.00
  - C. \$76.00
  - D. \$85.00
- 

- 5.** Mr. Jensen recorded the prices of clothing purchases. The prices recorded are shown below.

\$20.00 \$22.00 \$25.00 \$18.00 \$17.00 \$20.00 \$41.00 \$18.00 \$18.00 \$19.00

What is the **median** price of the clothing?

- A. \$18.00
  - B. \$19.50
  - C. \$20.00
  - D. \$21.80
- 

- 6.** A data set is shown below.

163 172 221 198 203 195 237 271 257 300

What is the **median** of the data set?

- A. 199
  - B. 203
  - C. 212
  - D. 222
-

## **Grade 8 Comprehensive Math Practice Test**

Student Name: \_\_\_\_\_

**Read each question below and circle the correct answer.**

- 1.** The numbers below represent the earned run average of the pitchers on the baseball team at Valley High School.

2.99 3.99 5.8 2.99 4.88

Which statement about the **mean** of the data set is true?

- A. The mean is 2.81 because this is the difference between the lowest and the highest earned run average.
  - B. The mean is 2.99 because this is the earned run average that occurs the most frequently.
  - C. The mean is 4.13 because this is the sum of all of the earned run averages divided by the number of pitchers.
  - D. The mean is 3.99 because this is the earned run average that is in the middle of the spread of the sorted data.
- 

- 2.** Tom is 6 centimeters taller than twice Hendrick's height. Which equation best describes the relationship between Tom's height ( $t$ ) and Hendrick's height ( $h$ )?

- A.  $t = 6 + 2h$
  - B.  $t = 6 \times 2 + h$
  - C.  $t = 6 + 2 + h$
  - D.  $t = 6 \times 2 \times h$
- 

$$\frac{x}{2} + 3 = 7$$

- 3.** What is the value of  $x$  in the equation  $\frac{x}{2} + 3 = 7$ ?

- A. 2
  - B. 5
  - C. 6
  - D. 8
- 

- 4.** A window cleaning company charges \$20 for a service call and \$3 for cleaning each window. Which equation should be used to determine the total charge ( $c$ ) for cleaning  $w$  windows?

- A.  $c = 17w$
  - B.  $c = 23w$
  - C.  $c = 20 + 3w$
  - D.  $c = 20w + 3$
-

5. George went to a buffet where he could choose one dessert and one beverage from the choices shown below.



cherry pie cherry pie cherry pie cherry pie cherry pie



brownie brownie brownie



pudding pudding



soda soda soda



juice

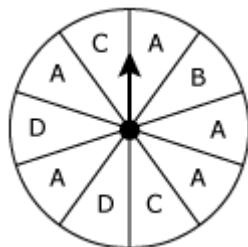


milk

George randomly chose a dessert and a beverage without looking. What is the probability that he chose both cherry pie and milk?

- A.  $\frac{1}{10}$
- B.  $\frac{1}{5}$
- C.  $\frac{1}{2}$
- D.  $\frac{2}{15}$

6. Regina spun the arrow on the spinner shown below 10 times.



She recorded the results in the chart below.

**Spinner Results**

Section	Number of Times Landed on Section
A	5
B	1
C	2
D	2

Regina is going to spin the arrow on the same spinner another 75 times. Which is the **best** prediction of the number of times the arrow will land on a section labeled with the letter D?

- A. 67 times, because  $10 - 8 = 2$  so  $75 - 8 = 67$
  - B. 50 times, because the arrow should stop on a section labeled with the letter D 50% of the time
  - C. 21 times, because there are 4 letters, and 21 is about 25% of 75
  - D. 15 times, because  $10 \cdot 20\% = 2$  so  $75 \cdot 20\% = 15$
- 

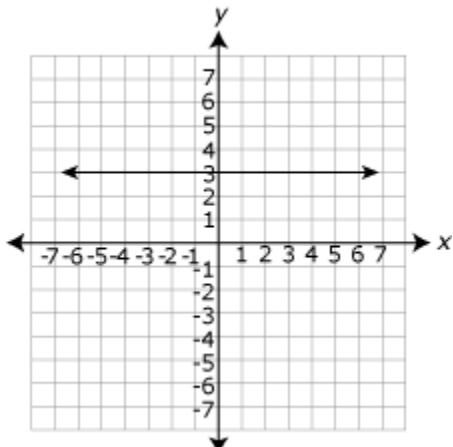
7. An expression is shown below.

$$3(25 + (6 + 2)^2)$$

Which operation should be the first step in simplifying the expression?

- A.  $3 \cdot 25$
  - B.  $25 + 6$
  - C.  $6 + 2$
  - D.  $2^2$
-

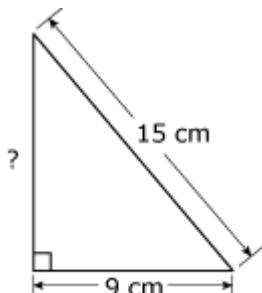
- 8.** A graph of a line is shown below.



Which three points are all solutions of the equation that describes the line?

- A. (0, 1) (0, 2) (0, 3)
  - B. (3, 0) (3, 1) (3, 2)
  - C. (0, 3) (1, 3) (2, 3)
  - D. (1, 1) (2, 2) (3, 3)
- 

- 9.** The lengths of two sides of a right triangle are shown below.



What is the length of the third side? ( $a^2 + b^2 = c^2$ )

- A. 6 cm
  - B. 12 cm
  - C. 18 cm
  - D. 24 cm
-

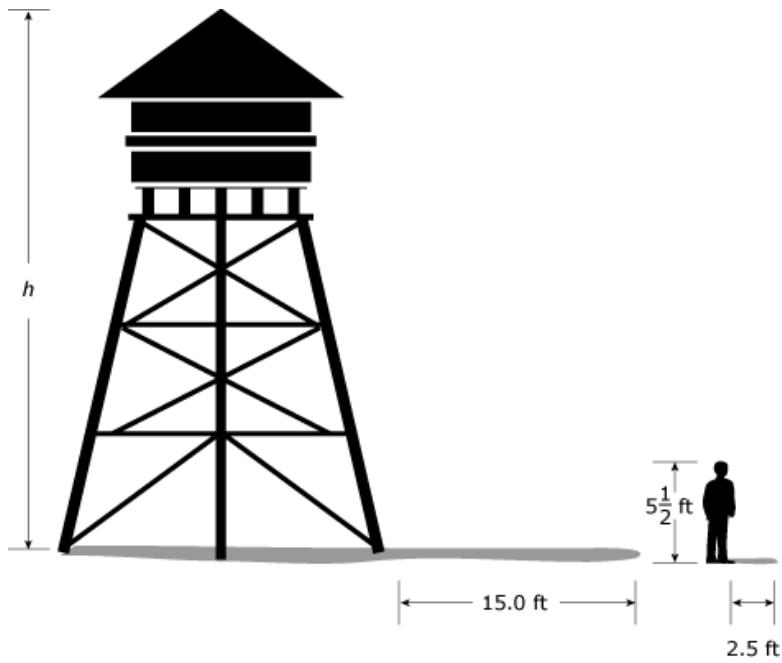
- 10.** The Jasper family ate dinner at a restaurant. The total cost of the meal was \$40. The family also left a 15% tip for their server based on the **total** cost of the meal. What was the total amount of money, in dollars, the Jasper family paid for the meal with the tip?

- A. \$6
  - B. \$15
  - C. \$46
  - D. \$55
- 

- 11.** Sue wants to know the height of a water tower near her home. Sue is  $5\frac{1}{2}$  feet (ft.) tall. She and the water tower both cast shadows on the ground, as shown in the diagram below.

What is the height ( $h$ ) of the water tower?

- A. 18 ft.
  - B. 23 ft.
  - C. 32 ft.
  - D. 33 ft.
- 



- 12.** Which subsets of the real number system contain the number -8?

- A. integers and natural numbers
  - B. integers and rational numbers
  - C. whole numbers and natural numbers
  - D. whole numbers and rational numbers
- 

- 13.** Samantha created the table below to show the relationship between the number of red balloons ( $x$ ) and the number of pink balloons ( $y$ ) in different sized packages of balloons she could buy.

$x$	9	12	15	18
$y$	5	6	7	8

Which equation represents the relationship between  $x$  and  $y$  shown in the table?

- A.  $y = 3x + 2$
  - B.  $y = 3x - 2$
  - C.  $y = \frac{1}{3}x + 2$
  - D.  $y = \frac{1}{3}x - 2$
-

**14.** Hector paid a shipping fee to send a painting to a customer. Hector then charged the customer for the cost of the shipping fee ( $f$ ). Which equation represents this situation?

- A.  $f \bullet 1 = f$
  - B.  $f \bullet \frac{1}{f} = 1$
  - C.  $-f + f = 0$
  - D.  $f + 0 = 0$
- 

**15.** Which statement about the product of a nonzero number and zero is **always** true?

- A. The product is equal to one.
  - B. The product is equal to zero.
  - C. The product is equal to the nonzero number.
  - D. The product is the reciprocal of the nonzero number.
- 

**16.** The faces of a cube are numbered 1 through 6. The cube is rolled 60 times. Which is the **best** prediction of the number of times the cube is expected to land with a 4 facing up?

- A. 5 times
- B. 6 times
- C. 10 times
- D. 15 times

## **Grade 8 Math Answer Keys**

### **Grade 8 Mini Math Test #A**

**1.** A   **2.** D   **3.** B   **4.** D   **5.** B   **6.** B   **7.** B   **8.** A   **9.** B   **10.** B

### **Grade 8 Mini Math Test #B**

**1.** B   **2.** C   **3.** D   **4.** C   **5.** B   **6.** C

### **Grade 8 Mini Math Test #C**

**1.** D   **2.** D   **3.** D   **4.** B   **5.** A   **6.** B   **7.** B   **8.** D

### **Grade 8 Mini Math Test #D**

**1.** A   **2.** D   **3.** B   **4.** C   **5.** A   **6.** D

### **Grade 8 Mini Math Test #E**

**1.** D   **2.** B   **3.** D   **4.** A   **5.** A   **6.** D   **7.** C   **8.** A

### **Grade 8 Mini Math Test #F**

**1.** C   **2.** C   **3.** D   **4.** C   **5.** D   **6.** C   **7.** A   **8.** C

### **Grade 8 Mini Math Test #G**

**1.** A   **2.** B   **3.** D   **4.** C   **5.** A   **6.** C   **7.** D   **8.** B   **9.** B   **10.** C

### **Grade 8 Mini Math Test #H**

**1.** C   **2.** B   **3.** D   **4.** C

### **Grade 8 Mini Math Test #I**

**1.** A   **2.** A   **3.** A   **4.** D

### **Grade 8 Mini Math Test #J**

**1.** D   **2.** B   **3.** B   **4.** B   **5.** B   **6.** B

### **Grade 8 Mini Math Test #K**

**1.** A   **2.** B   **3.** B   **4.** C   **5.** B   **6.** C

### **Grade 8 Mini Math Test #L**

**1.** B   **2.** D   **3.** D   **4.** D

### **Grade 8 Mini Math Test #M**

**1.** C   **2.** A   **3.** B

### **Grade 8 Mini Math Test #N**

**1.** C   **2.** B   **3.** C   **4.** B   **5.** A

### **Grade 8 Mini Math Test #O**

**1.** C   **2.** B   **3.** C   **4.** B   **5.** B   **6.** A

### **Grade 8 PRACTICE TEST**

<b>1.</b> C	<b>2.</b> A	<b>3.</b> D	<b>4.</b> C	<b>5.</b> A	<b>6.</b> D	<b>7.</b> C	<b>8.</b> C	<b>9.</b> B	<b>10.</b> C
<b>11.</b> D	<b>12.</b> B	<b>13.</b> C	<b>14.</b> C	<b>15.</b> B	<b>16.</b> C				

## **Grade Eight Math State Standards and Benchmarks**

The relationship between standards, benchmarks, and indicators is was touched upon earlier in the booklet. Here you will see the specific standards, benchmarks, and indicators for 8<sup>th</sup> graders. Understand that the state expects 8<sup>th</sup> grade students to know *more* than just the tested indicators. Included below are benchmarks that are not marked with a delta. This indicates that it is an indicator that is not a tested item. This does not mean that there is nothing expected of an 8<sup>th</sup> grade student in that area, it just indicates that the state will not be assessing that particular indicator.

### **Standard 1: Number and Computation – The student uses numerical and computational concepts and procedures in a variety of situations.**

#### **Benchmark 1: Number Sense –**

**The student demonstrates number sense for real numbers and simple algebraic expressions in a variety of situations.**

- ▲ The student knows and explains what happens to the product or quotient when
  - A positive number is multiplied or divided by a rational number greater than zero and less than one
  - A positive number is multiplied or divided by a rational number greater than one
  - A nonzero real number is multiplied or divided by zero

#### **Benchmark 2: Number Systems and Their Properties –**

**The student demonstrates an understanding of the real number system; recognizes, applies, and explains their properties; and extends these properties to algebraic expressions.**

- ▲ The student generates and/or solves real-world problems with rational numbers using the concepts of these properties to explain reasoning:
  - Commutative, associative, distributive, and substitution properties
  - Identity and inverse properties of addition and multiplication
- ▲ The student identifies all the subsets of the real number system (natural counting numbers, whole numbers, integers, rational numbers, irrational numbers) to which a given number belongs

#### **Benchmark 3: Estimation –**

**The student uses computational estimation with real numbers in a variety of situations.**

#### **Benchmark 4: Computation –**

**The student models, performs, and explains computation with rational numbers, the irrational number pi, and algebraic expressions in a variety of situations.**

- ▲ The student generates and/or solves one- and two-step real-world problems using computational procedures and mathematical concepts with rational numbers, the irrational number pi as an approximation, and applications of percents.

- ▲ The student performs and explains these computational procedures with rational numbers
  - Addition, subtraction, multiplication, and division of integers
  - Order of operations (evaluates within grouping symbols, evaluates powers to the second or third power, multiplies or divides in order from left to right, then adds or subtracts in order from left to right)

## **Standard 2: Algebra – The student uses algebraic concepts and procedures in a variety of situations.**

### **Benchmark 1: Patterns –**

**The student recognizes, describes, extends, develops, and explains the general rule of a pattern from a variety of situations.**

### **Benchmark 2: Variable, Equations, and Inequalities –**

**The student uses variables, symbols, real numbers, and algebraic expressions to solve equations and inequalities in a variety of situations.**

- ▲ The student represents real-world problems using variables, symbols, expressions, one- or two-step equations with rational number coefficients and constants
- ▲ The student solves one- and two-step linear equations in one variable with rational number coefficients and constants intuitively and/or analytically

### **Benchmark 3: Functions –**

**The student recognizes, describes, and analyzes constant, linear, and nonlinear relationships in a variety of situations.**

- ▲ The student translates between the numerical, tabular, graphical, and symbolic representations of linear relationships with integer coefficients and constants

### **Benchmark 4: Models –**

**The student generates and uses mathematical models to represent and justify mathematical relationships found in a variety of situations.**

- ▲ The student determines if a given graphical, algebraic, or geometric model is an accurate representation of a given real-world situation

## **Standard 3: Geometry – The student uses geometric concepts and procedures in a variety of situations.**

### **Benchmark 1: Geometric Figures and Their Properties –**

**The student recognizes geometric figures and compares their properties in a variety of situations.**

- ▲ The student solves real-world problems by using the properties of corresponding parts of similar and congruent figures

- ▲ The student uses the Pythagorean theorem to determine if a triangle is a right triangle and to find a missing side of a right triangle where the lengths of all three sides are whole numbers

**Benchmark 2: Measurement and Estimation –**

**The student estimates, measures, and uses geometric formulas in a variety of situations.**

**Benchmark 3: Transformational Geometry –**

**The student recognizes and applies transformations on geometric figures in a variety of situations.**

**Benchmark 4: Geometry from an Algebraic Perspective –**

**The student uses an algebraic perspective to examine the geometry of two-dimensional figures in a variety of situations.**

- ▲ The student uses the coordinate plane to:

- list several ordered pairs on the graph of a line and find the slope of the line
- recognize that ordered pairs that lie on the graph of an equation are solutions to that equation
- recognize that points that do not lie on the graph of an equation are not solutions to that equation
- determine the length of a side of a figure drawn on a coordinate plane with vertices having the same x- or y-coordinates

**Standard 4: Data – The student uses concepts and procedures of data analysis in a variety of situations.**

**Benchmark 1: Probability –**

**The student applies the concepts of probability to draw conclusions, generate convincing arguments, and make predictions and decisions including the use of concrete objects in a variety of situations.**

- ▲ The student makes predictions based on the theoretical probability of a simple event in an experiment or simulation

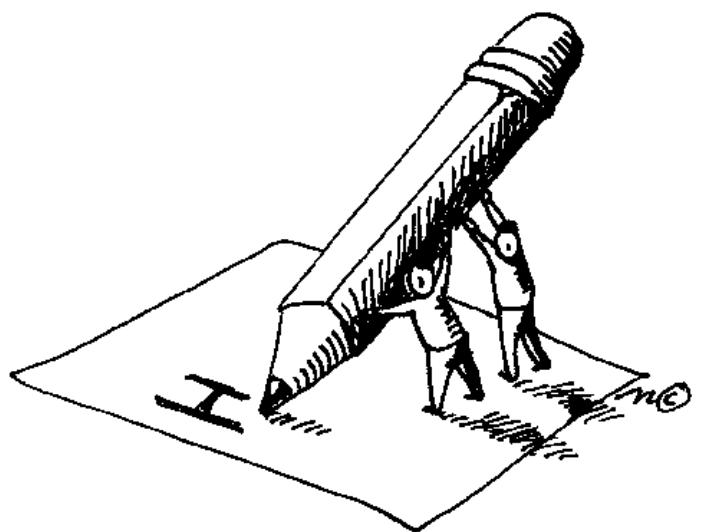
- ▲ The student finds the probability of a compound event composed of two independent events in an experiment, simulation, or situation

**Benchmark 2: Statistics –**

**The student collects, organizes, displays, explains, and interprets numerical (rational) and non-numerical data sets in a variety of situations.**

- ▲ The student determines and explains the measures of central tendency (mode, median, mean) for a rational number data set

# Reading



## **Grade Eight Reading Assessment Practice**

### **SECTION 1 - State Standards, Benchmarks, and Indicators and Sample Questioning**

The State Standards, Benchmarks, and Indicators that a student will be tested over on the Kansas State Assessment are listed and marked with a triangle (delta).

Sample questioning and examples are below the state tested indicators. These are a great way to 'see' what the assessment questions might look like on a test.

### **SECTION 2 - Reading Passages**

Narrative, Expository, Technical, and Persuasive reading passages and tests questions are created by the state to help students as they prepare for the state assessment. Students will read the passage and answer the questions. The answer key for each passage follows the student questions.

When a student takes the *Kansas State Assessment Test*, he/she will be tested in the grade level that they are in, not necessarily the level of K12 curriculum they are working in. When administering these practice tests, try to do so in the same way that students will take the *Kansas State Assessment Tests*, in a quiet, controlled environment. Learning Coaches are not allowed to read a passage to the student. Reading or explaining the directions to them is not allowed either. However, Learning Coaches are allowed to read the question and answer choices to them if they would like help. Although this can be difficult, it gives a more accurate picture of what they will need help with on the actual assessment.

It is a good test-taking strategy to encourage students to read the questions before the passage. After reading the passage, it is also a good practice to teach students to re-read and skim the passage as they answer, if they are unsure of, or simply want to check their answers/s.

After the practice test is completed, Learning Coaches and students can, *and should*, spend time going over what they did and did not understand. If a student needs more practice on a particular Indicator, visit with an Education Specialist. Together, a plan can be created to adjust the daily teaching to work more on a particular concept/skill or find additional test practice for that particular State Indicator.

## **Grade Eight Reading Standards, Benchmarks, & Indicators**

Below is the list of *Standards*, *Benchmarks*, and *Indicators* that the state of Kansas deems as most important for a 8<sup>th</sup> grade student to master. In this document, the Indicator that will be tested on the state assessment is marked with a delta (▲). The items not marked with a delta, are still important skills that all 8<sup>th</sup> grade students need to know, but are not the focus of our state assessment preparation.

NOTE: Each Standard, Benchmark, and Indicator can be identified by referencing the letters and numbers in parenthesis. Example: (Subject.Grade Level.Benchmark.Indicator) – (R.8.1.3.5)

**Standard 1:** (R.8.1) Reading – The student reads and comprehends text across the curriculum.

<b>Benchmark 1</b> (R.8.1.1): The student uses skills in alphabetics to construct meaning from text.	
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<b>Benchmark 2</b> (R.8.1.2): The student reads fluently.	
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<b>Benchmark 3</b> (R.8.1.3): The student expands vocabulary.	<b>Indicator 1</b> (R.8.1.3.1) ▲The student determines meaning of words or phrases using context clues (e.g., definitions, restatements, examples, descriptions, comparison-contrast, clue words, cause-effect) from sentences or paragraphs.
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### Explanation of Indicator

When a student encounters an unknown word or phrase, he should be able to use the clues from the surrounding words to figure out the meaning of the unknown word or phrase.

### Instructional Example

While reading an unfamiliar text, the student uses symbols to mark words as: I know this word; I am vaguely familiar with the word; and I don't have a clue. These words are then emphasized within the reading and the student uses context clues, examples, or the dictionary to record definitions.

### Sample Questions

1. In Step 10, the word replenish probably means
2. In the second paragraph, the word herbivorous is used to describe animals that
3. In the first paragraph, the phrase "keep apprised of" probably means
4. Read the sentence below from the passage.

The lawn was so unkempt that it took us a whole day to mow and weed it.

In the sentence, the word unkempt probably means

	<b>Indicator 3</b> (R.8.1.3.3) ▲The student determines meaning of words through structural analysis, using knowledge of *Greek, *Latin, and Anglo-Saxon *roots, *prefixes, and *suffixes to understand complex words, including words in science, mathematics, and social studies.
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### Explanation of Indicator

The student knows how adding beginnings or endings to words change the meaning of the

word.

Instructional Example

Have the student investigate word origins as an aid to understanding meanings, derivations, spellings, as well as influences on the English language.

Prefixes, Suffixes, and Root Words to be Tested

<b>Prefixes</b>	<b>Meaning</b>	<b>Examples</b>
ab	from	abnormal, abhor, abolish, abstain
im	into	immediate, immerse, immigrate, implant
im	not	imbalance, immaculate, immature
in	into	incision, include, induce, inhale, infect
in	not	inaccurate, inactive, inadvertent
inter	among/between	intercede, interpret, interrupt
mal	bad	maladjusted, malfunction, malice, malevolent
uni	one	unicorn, uniform, unite, universe, unique, unison

<b>Suffixes</b>	<b>Meaning</b>	<b>Examples</b>
ee	object of action	payee, lessee, employee
ette/et	small	midget, sonnet, bassinet, dinette, cigarette, majorette
ian	relating to	barbarian, physician, Christian
ion	state or quality of	champion, companion, ambition, suspicion
ive	inclined to	active, passive, negative, restive, positive, affirmative

<b>Roots</b>	<b>Meaning</b>	<b>Examples</b>
agri	field	agriculture, agrarian, agribusiness
aud	hear	audience, auditorium, audible, audition, audiovisual
bene	good	benediction, benefactor, beneficial
circum	around, about	circumscribe, circumfuse, circumference
corp	body	corporation, corpse, corps, corpuscle, corpus
dict	speak	dictate, predict, contradict, verdict, diction
dur	to last	during, duration, duress, durable
equ/equi	equal, equally	equilibrium, equilibrist, equilateral,
hydro	water	hydroelectric, hydrogen, hydrant, dehydrate
luna	moon	lunar, lunatic, lunette
nav	ship	navy, naval, navigate, circumnavigate
ped	foot	pedal, pedestrian, biped, pedestal
psych	mind, soul	psychology, psyche, psychopath, psychiatrist

sci	know	science, conscience, conscious, omniscient	
sent/sens	feel	sedative, sediment, sedentary, sensation, sense,	
sol/soli	alone	solo, solitary, desolate, soliloquy	
spec	See	inspect, suspect, respect, spectator, spectacle	

Sample Question

1. Knowing the meaning of the Greek root *psych* helps the reader understand that “psychology” is the study of:

	<b>Indicator 4</b> (R.8.1.3.4) ▲The student identifies and determines the meaning of figurative language including *similes, *metaphors, *analogies, hyperbole, *onomatopoeia, *personification, *idioms, *imagery, and symbolism.
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Explanation of Indicator

The student understands the meaning of word images and figures of speech.

Instructional Example

The student reads poems containing examples of figurative language such as analogies, similes, metaphors, hyperbole, onomatopoeia, personification, idioms, or imagery. The student then creates his/her own examples of figurative language modeled after the poets.

Sample Questions

1. In the last paragraph, the phrase “turn over a new leaf” is an example of which type of figurative language?
2. Read the sentence below from the passage.  
**The lamb's warm, wet breath tickled the end of my nose.**  
The sentence is an example of which type of figurative language?
3. In paragraph two, the phrase “a grocery list as long as a novel” is an example of which type of figurative language?

<b>Benchmark 4</b> (R.8.1.4): The student comprehends a variety of texts (narrative, expository, technical, and persuasive).	<b>Indicator 2</b> (R.8.1.4.2) ▲The student understands the purpose of text features (e.g., title, graphs/charts and maps, table of contents, pictures/illustrations, boldface type, italics, glossary, index, headings, subheadings, topic and summary sentences, captions, sidebars, underlining, numbered or bulleted lists) and uses such features to locate information in and to gain meaning from appropriate-level texts.
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Explanation of Indicator

Student understands how the features located in text (e.g., title, graphs/charts and maps, table of contents, pictures/illustrations, boldface type, italics, glossary, index, headings, subheadings, *topic* and summary sentences, captions, sidebars, underlining, numbered or bulleted lists) can help them understand the meaning of the text.

Instructional Example

The student uses a news magazine and locates as many text features as possible. The student discusses why that text feature was selected for that information.

Sample Questions

1. The bulleted list at the beginning of the recipe helps the reader understand
2. The purpose of the sidebar is to

- |  |
|--|
| <ol style="list-style-type: none"> <li>3. According to the sidebar, the average person drinks how many gallons of water each year?</li> <li>4. The purpose of the title is to           <ol style="list-style-type: none"> <li>a. introduce the topic of the passage.</li> <li>b. explain the importance of the passage.</li> <li>c. inform the reader about the author of the passage.</li> <li>d. help the reader think about the setting of the passage.</li> </ol> </li> </ol> |
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**Indicator 5** (R.8.1.4.5)

▲ The student uses information from the text to make inferences and draw conclusions.

Explanation of Indicator

The student is able to make a prediction or draw a conclusion about the text.

Instructional Example

Encourage the student to make inferences or predictions about what could happen in the text after reading a chapter from a novel.

Sample Questions

1. Based on the passage, tusks would probably be **most** useful when elephants are
2. Which is the **main** benefit of aerobic exercise?

**Indicator 6** (R.8.1.4.6)

▲ The student analyzes how text structure (e.g., sequence, problem-solution, comparison-contrast, description, cause-effect) helps support comprehension of text.

Explanation of Indicator

The student is able to tell how an author organizes material or information in the text (e.g., sequence, problem-solution, comparison-contrast, description, cause-effect).

Instructional Example

The student uses key words to identify the kind of text structure and why the author selected that particular type for that specific information.

Sample Questions

1. The section titled "From Tree to Bottle" uses sequence as its text structure to
2. CA: explain the steps that farmers take to turn apples into apple juice.
3. The author uses cause and effect as the structure of the passage **mainly** to

**Indicator 7** (R.8.1.4.7)

▲ The student compares and contrasts varying aspects (e.g., characters' traits and motives, themes, problem-solution, cause-effect relationships, ideas and concepts, procedures, viewpoints, authors' purposes, persuasive techniques) in one or more appropriate-level texts.

Explanation of Indicator

The student should be able to tell how varying aspects (e.g., characters' traits and motives, themes, problem-solution, cause-effect relationships, ideas and concepts, procedures, viewpoints, authors' purposes) are alike or different.

Instructional Example

The student read two stories, then, compares and contrasts the two stories looking for similarities and differences. This activity can be used with any novel or short story to compare and contrast characters' traits and motives.

Sample Questions

1. Unlike other mammals, bats are able to
2. During the chess match, Justin's feelings about his opponent changed from
3. The father and son are **similar** because they both
4. In the passage, what is the **main** difference between the first summer and the second summer?

**Indicator 8** (R.8.1.4.8)

▲ The student explains cause-effect relationships in appropriate-level narrative, expository, technical, and persuasive texts.

Explanation of Indicator

The student understands how one or more things can have an effect on the outcome of another.

Instructional Example

The student uses a yellow highlighter to mark the cause and a green highlighter to mark the effects from a text. Student discusses how one cause can have multiple effects.

Sample Question

1. What would **probably** happen if Malcolm stopped delivering the paper on time?
2. How did Emily's absence affect her teammates?
3. Based on the passage, what causes the moths to stay away from the wool sweaters?

**Indicator 9** (R.8.1.4.9)

▲ The student uses paraphrasing and organizational skills to summarize information (e.g., stated and implied main ideas, main events, important details) from appropriate-level narrative, expository, persuasive, and technical texts in logical order.

Explanation of Indicator

The student restates main idea and important details in logical order.

Instructional Example

Help the student to understand that summarizing is restating or translating information into your own words. Then, after reading a "how to" article, the student summarizes and lists the steps in proper sequence.

Test Notes

- For all passage types (i.e., narrative, expository, technical, and persuasive), main idea questions may focus on the main idea of the whole passage or parts (i.e., important paragraphs or sections, sidebars) of the passage.
- Example question: "Which sentence(s) best summarizes the passage?" Answer choices must be complete sentences or short paragraphs containing main ideas or main events and important details in logical order.

Sample Question

1. Which best summarizes the last two paragraphs of the passage?
2. Which **best** summarizes the passage?

**Indicator 10** (R.8.1.4.10)

▲ The student identifies the topic, main idea(s), supporting details, and theme(s) in text across the content areas and from a variety of sources in appropriate-level texts.

Explanation of Indicator

The student identifies the topic, main idea(s), supporting details, and theme(s) in text.

Instructional Example

The student answers the questions "Who?", "What?", "When?", "Where?", "How?", and "Why?". The student reads to find the main idea and to find answers to the questions. The student writes the main idea of the story and answers the questions "Who is the author talking about?", "What did they do?", "When did they do it?", "Where did they do it?", "How did they do it?", and "Why did they do it?".

Test Notes

- For all passage types (i.e., narrative, expository, technical, and persuasive), main idea questions may focus on the main idea of the whole passage or parts (i.e., important paragraphs or sections, sidebars) of the passage.
- Supporting details are details that support the topic, main idea(s), and/or theme(s) of a whole passage or part of a passage. Keep in mind that important (vs. trivial) details in a passage are not always supporting details.

Sample Questions

1. What is the **main** idea of Scene II?
2. What is the theme of the passage?
3. Which is a major theme of the passage?
4. What is the **main** idea of the passage?
5. The passage is **mainly** about
6. What is the **main** topic of the passage?
7. Which detail from the passage **best** supports the main idea?
8. According to the passage, where do sparrows make their homes?
9. What is the **most** important thing people can do to reduce energy bills?

**Indicator 11** (R.8.1.4.11)

▲ The student explains the relationship between an author's use of literary devices in a text (e.g., \*foreshadowing, \*flashback, \*irony, symbolism, tone, mood) and his or her purpose for writing the text.

Explanation of Indicator

The student explains how the author's purpose for writing the text influences his style of writing.

Instructional Example

The student makes a text-to-text connection by comparing two pieces of text by the same author. The student compares both pieces to determine the author's style. A discussion then follows as to how the author's style supports their purpose for writing.

Sample Questions

1. The author uses flashback when speaking about Wilma's student hood injuries to show that Wilma ...

**Indicator 14** (R.8.1.4.14)

▲ The student identifies the author's positions in a persuasive text and describes techniques the author uses to support that position (e.g., bandwagon approach, glittering generalities, testimonials, citing statistics, other techniques that appeal to reason or emotion).

Explanation of Indicator

The student identifies the details that point to the conclusions drawn by the author.

Instructional Example

Encourage the student to view commercials and advertisements in magazines. The student identifies the techniques used to persuade.

Sample Question

1. Which technique does the author use to support the position that daily exercise improves self-confidence?
  - A. bandwagon approach
  - B. statistics
  - C. glittering generalities
  - D. testimonials
2. Which sentence from the passage **best** supports the author's conclusion that bats are helpful to farmers?

**Indicator 15** (R.8.1.4.15)

▲ The student distinguishes between fact and opinion, and recognizes propaganda (e.g., advertising, media, politics, warfare), bias, and stereotypes in various types of appropriate-level texts.

Explanation of Indicator

The student understands the difference between fact and opinion and recognizes different types of propaganda.

Instructional Example

The student reviews advertisements to determine which statements about a product are facts and which are opinions. Then student develops his/her own ad for the product utilizing both facts and opinions.

Sample Question

1. Which sentence from the passage is an opinion?
2. Which statement based on the passage is an opinion?
3. Which sentence from the passage **best** shows the author's bias about using solar energy?

## **Standard 2:** (R.8.2) Literature – The student responds to a variety of text.

**Benchmark 1** (R.8.2.1): The student uses literary concepts to interpret and respond to text.

**Indicator 1** (R.8.2.1.1)

▲ The student describes aspects of characters (e.g., their physical traits, personality traits, feelings, actions, motives) and analyzes how major characters are developed (e.g., through their thoughts, words, speech patterns, actions) and how they change over time.

Explanation of Indicator

The student describes different aspects of major and minor *characters* (e.g., their physical traits, personality traits, feelings, actions, motives) and explains how those aspects change and develop over time.

Instructional Example

The student selects a favorite character from a book or a movie and discusses how the character's traits, feelings, actions, and motives develop and change over time.

Sample Question

1. At the end of the passage, how does Nathan show that he has adjusted to his new school?
2. Why did Grandpa tell Mary to share the money with her sister?

- |  |
|--|
| <p>3. After the tournament, Cathy <b>mainly</b> felt</p> <p>4. Why did Cindy think Tim was conceited when she first met him?</p> <p><b>5.</b> Which is the <b>main</b> reason Alex brought the newspaper home?</p> |
|--|

**Indicator 2** (R.8.2.1.2)

▲ The student identifies and describes the setting (e.g., environment, time of day or year, historical period, situation, place) and analyzes connections between the setting and other story elements (e.g., character, plot).

Explanation of Indicator

The student describes the setting (e.g., environment, time of day or year, historical period, situation, place) and explains the importance of the setting to the story.

Instructional Example

The student invents an alternative setting for the story and describes how that might impact the outcome of the story.

Test Notes

- Connections between setting and other story elements can include the ways in which the setting influences various aspects of characters (e.g., their traits, feelings, actions, motives) and various elements of the plot (e.g., conflict, crisis/turning moment, climax, resolution, rising action, falling action, subplots, parallel episodes).

Sample Question

1. The explorer has trouble finding the treasure because the cave is
2. What is the setting at the beginning of the passage?
3. Which is the **main** setting of the passage?
4. The passage takes place during which time of day?
5. Which **best** describes how the rural setting affects events in the passage?

**Indicator 3** (R.8.2.1.3)

▲ The student identifies major and minor elements of the plot (e.g., problem or conflict, climax, resolution, rising action, falling action, subplots, parallel episodes) and explains how these elements relate to one another.

Explanation of Indicator

The student describes the major and minor events in a story and explains how one event gives rise to another.

Instructional Example

The student draws the major events related to the conflict in a story and explains how one event leads to another.

Sample Question

1. By resolving her problem, Anita was able to
2. The **major** conflict in the story is resolved when
3. What is the **major** conflict in the passage?
4. Which is the climax of the passage?
5. Which is the resolution of the story?

**Benchmark 2** (R.8.2.2): The student understands the significance of literature and its contributions various cultures.

## **Grade Eight Reading Passages – by Text Type**

### **The Beadwork**

(A Narrative Reading Passage)

**by Zitkala-Sa**

Read the following passage and answer the questions by circling the correct answer.

Soon after breakfast, mother sometimes began her beadwork. On a bright clear day, she pulled out the wooden pegs that pinned the skirt of our wigwam to the ground, and she rolled the canvas partway up on its frame of slender poles. Then the cool morning breezes swept freely through our dwelling, now and then wafting the perfume of sweet grasses from newly burnt prairie. Untying the long tasseled strings that bound a small brown buckskin bag, my mother spread her bunches of colored beads upon a mat beside her, just as an artist arranges the paints upon a palette. On a lapboard she smoothed out a double sheet of soft white buckskin, and drawing a long, narrow blade from a beaded case that hung on the left of her wide belt, she trimmed the buckskin into shape.

Often she worked upon small moccasins for her small daughter. Then I became intensely interested in her designing. With a proud, beaming face, I watched her work. In my imagination, I saw myself walking in a new pair of snugly fitting moccasins. I felt the envious eyes of my playmates upon the pretty red beads decorating my feet.

Close beside my mother I sat on a rug, with a scrap of buckskin in one hand and an awl in the other. This was the beginning of my practical observation lessons in the art of beadwork. My mother pulled out a single thread from a skein of finely twisted threads of silvery sinews. With an awl she pierced the buckskin, and skillfully threaded it with the white sinew. Picking up the tiny beads one by one, she strung them with the point of her thread, always twisting it carefully after every stitch.

It took many trials before I learned how to knot my sinew thread on the point of my finger, as I saw her do. Then the next difficulty was in keeping my thread stiffly twisted, so that I could easily string my beads upon it. My mother required that I create original designs for my lessons in beading. At first I frequently ensnared many a sunny hour into working a long design. Soon I learned from self-inflicted punishment to refrain from drawing complex patterns, for I had to finish whatever I began.

After some experience I usually drew easy and simple crosses and squares. These were some of the set forms. My original designs were not always symmetrical or sufficiently characteristic, two faults with which my mother had little patience. The quietness of her oversight made me feel strongly responsible and dependent upon my own judgment. She treated me as a dignified little individual as long as I was on my good behavior; and how humiliated I was when some boldness of mine drew forth a rebuke from her!

In the choice of colors she left me to my own taste. I was pleased with an outline of yellow upon a background of dark blue, or a combination of red and myrtle-green. There was another of red with a bluish gray that was more conventionally used.

When I became a little familiar with designing and the various pleasing combinations of color, a harder lesson was given me. It was the sewing on, instead of beads, some tinted porcupine quills, moistened and flattened between the nails of the thumb and forefinger. My mother cut off the prickly ends and burned them at once in the center fire. These sharp points were poisonous, and worked into the flesh wherever they lodged. For this reason, my mother said, I should not do much alone in quills until I was as tall as my cousin Warca-Ziwin.

Always after these confining lessons I was wild with surplus spirits, and found joyous relief in running loose in the open again. Many a summer afternoon, a party of four or five of my playmates roamed over the hills with me. We each carried a light, sharpened rod about four feet long, with which we pried up certain sweet roots. When we had eaten all the choice roots we chanced upon, we shouldered our rods and strayed off into patches of a stalky plant under whose yellow blossoms we found little crystal drops of gum. Drop by drop we gathered this nature's rock-candy, until each of us could boast of a lump the size of a small bird's egg. Soon satiated with its woody flavor, we tossed away our gum, to return again to the sweet roots. I

remember well how we used to exchange our necklaces, beaded belts, and sometimes even our moccasins. We pretended to offer them as gifts to one another. We delighted in impersonating our own mothers. We talked of things we had heard them say in their conversations. We imitated their various manners, even to the inflection of their voices. In the lap of the prairie we seated ourselves upon our feet; and leaning our painted cheeks in the palms of our hands, we rested our elbows on our knees, and bent forward as old women were most accustomed to do.

While one was telling of some heroic deed recently done by a near relative, the rest of us listened attentively, and exclaimed in undertones, "Han! Han!" (yes! yes!) whenever the speaker paused for breath, or sometimes for our sympathy. As the discourse became more thrilling, according to our ideas, we raised our voices in these interjections. In these impersonations our parents were led to say only those things that were in common favor. No matter how exciting a tale we might be rehearsing, the mere shifting of a cloud shadow in the landscape nearby was sufficient to change our impulses; and soon we were all chasing the great shadows that played among the hills. We shouted and whooped in the chase; laughing and calling to one another, we were like little sportive nymphs [gloss 1] on that Dakota sea of rolling green.

On one occasion, I forgot the cloud shadow in a strange notion to catch up with my own shadow. Standing straight and still, I began to glide after it, putting out one foot cautiously. When, with the greatest care, I set my foot in advance of myself, my shadow crept onward too. Then again I tried it; this time with the other foot. Still again my shadow escaped me. I began to run; and away flew my shadow, always just a step beyond me. Faster and faster I ran, setting my teeth and clenching my fists, determined to overtake my own fleet shadow. But ever swifter it glided before me, while I was growing breathless and hot. Slackening my speed, I was greatly vexed that my shadow should check its pace also. Daring it to the utmost, as I thought, I sat down upon a rock embedded in the hillside. So! My shadow had the impudence to sit down beside me! Now my comrades caught up with me, and began to ask why I was running away so fast. "Oh, I was chasing my shadow! Didn't you ever do that?" I inquired, surprised that they should not understand. They planted their moccasined feet firmly upon my shadow to stay it, and I arose. Again my shadow slipped away, and moved as often as I did. Then we gave up trying to catch my shadow.

Before this peculiar experience I have no distinct memory of having recognized any vital bond between myself and my own shadow. I never gave it an afterthought. Returning our borrowed belts and trinkets, we rambled homeward. That evening, as on other evenings, I went to sleep over my legends.

[gloss 1] nymphs – female, elf-like beings who inhabited the countryside in ancient Greek myths

## **Test Questions – The Beadwork**

- 1.** Knowing the meaning of the suffix -ive helps the reader understand that the word "sportive" means

- A.** before sports.
  - B.** against sports.
  - C.** the most sports.
  - D.** relating to sports.
- 

- 2.** Read the sentence below from the passage.

*Drop by drop we gathered this nature's rock-candy, until each of us could boast of a lump the size of a small bird's egg.*

In the sentence, the phrase "nature's rock-candy" is an example of which type of figurative language?

- A.** simile
  - B.** hyperbole
  - C.** metaphor
  - D.** personification
- 

- 3.** In the passage, the phrase "we were like little sportive nymphs" is an example of which type of figurative language?

- |                     |                           |
|---------------------|---------------------------|
| <b>A.</b> idiom     | <b>C.</b> simile          |
| <b>B.</b> hyperbole | <b>D.</b> personification |

- 4.** Which detail from the passage **best** supports the main idea?

- A.** "There was another of red with a bluish gray that was more conventionally used."
  - B.** "These sharp points were poisonous, and worked into the flesh wherever they lodged."
  - C.** "Always after these confining lessons I was wild with surplus spirits, and found joyous relief in running loose in the open again."
  - D.** "Before this peculiar experience I have no distinct memory of having recognized any vital bond between myself and my own shadow."
- 

- 5.** The author uses imagery like "silvery sinews" and "soft white buckskin" **mainly** to

- A.** show how much attention the daughter is paying to her mother's work.
  - B.** compare the details inside the wigwam to the rolling hills of the landscape.
  - C.** explain how mother makes moccasins that fit snugly on her daughter's feet.
  - D.** compare the seriousness in the wigwam to the freedom of playing outside.
-

**6.** Based on the passage, why does the mother roll back the wigwam's canvas?

- A.** to let the breezes in
  - B.** to make more room for the daughter
  - C.** to let others see their work
  - D.** to adjust the frame of poles
- 

**7.** The author uses sequence of events as the structure of the first six paragraphs **mainly** to

- A.** propose solutions to past beadwork problems.
  - B.** explain the order in which beadwork activities usually occur.
  - C.** show how the beadwork looks when finished.
  - D.** suggest that some beadwork projects are superior to others.
- 

**8.** The author uses sequence as the text structure of the entire passage **mainly** to

- A.** show how kind the mother is to her daughter.
- B.** explain the order of events in the narrator's day.
- C.** describe the smells that come into the wigwam.
- D.** compare the narrator's behavior indoors and outdoors.

**9.** When the students exchanged gifts and had conversations they had heard, they were pretending to be like

- A.** their mothers.
  - B.** little nymphs.
  - C.** their cousins.
  - D.** great shadows.
- 

**10.** Which **best** summarizes the passage?

- A.** The narrator decided to chase her shadow. She began to glide after it. Every time she tried to capture her shadow it would escape her. She began to run faster and faster but was unable to catch it.
  - B.** The friends got together and roamed over the hills. They ate sweet roots and gathered gum. The friends exchanged necklaces, beaded belts, and moccasins. The students impersonated their mother and told great stories.
  - C.** The narrator learned beadwork from her mother. It took a long time to learn how to work with the delicate materials. After lessons, the narrator played with friends and exchanged gifts. One day the narrator tried to chase her shadow.
  - D.** The mother pulled out the wooden pegs of the wigwam. She smoothed out a double sheet of white buckskin and drew a narrow blade to trim it with. She was shaping the buckskin into small moccasins with beads.
-

**11.** Based on the passage, learning to do beadwork requires the narrator to be

- |  |   |
|--|---|
| <b>A.</b> playful.<br><b>B.</b> conceited. | <b>C.</b> patient.<br><b>D.</b> judgmental. |
|--|---|
- 

**12.** The daughter becomes intensely interested in her mother's activities when her mother

- |  |   |
|--|---|
| <b>A.</b> rolls up the canvas.<br><b>B.</b> uses intricate beadwork. | <b>C.</b> makes small moccasins.<br><b>D.</b> burns porcupine quills. |
|--|---|
- 

**13.** The mother treats the daughter as a "dignified little individual" as long as the daughter

- |  |  |
|--|--|
| <b>A.</b> behaves well.<br><b>B.</b> sits in the wigwam. | <b>C.</b> remembers well.<br><b>D.</b> walks in moccasins. |
|--|--|
- 

**14.** The passage begins at what time of day?

- A.** morning
  - B.** noon
  - C.** evening
  - D.** night
- 

**15.** Which **best** describes how the rural setting affects the main events in the passage?

- A.** It gives the students wide, open areas in which to play.
  - B.** It enables porcupines to live near the wigwams.
  - C.** It makes a perfume of newly burnt, sweet grasses.
  - D.** It provides the wigwams with cool morning breezes.
- 

**16.** When the narrator goes outside the wigwam, she becomes more

- A.** playful.
  - B.** obedient.
  - C.** creative.
  - D.** interested.
- 

**17.** When the clouds cast shadows on the ground, it gives the narrator the idea to

- A.** have interesting dreams.
  - B.** try to catch up with her own shadow.
  - C.** start rambling homeward.
  - D.** use porcupine quills in her designs.
-

**18.** Which is a conflict in the passage?

- A. The students step on the shadow.
  - B. The narrator tries unsuccessfully to catch up with her shadow.
  - C. The mother teaches beadwork to the narrator.
  - D. The mother burns the sharp points off the porcupine quills.
- 

**19.** Which **best** describes the falling action of the story?

- A. The narrator learns beadwork from her mother.
  - B. The shadow stays ahead of the narrator wherever she goes.
  - C. The mother rolls up the canvas on the wigwam.
  - D. The narrator and her friends ramble homeward after playing.
- 

**20.** Which **best** describes parallel episodes in the passage?

- A. The mother rolls up the canvas on the wigwam, and the daughter dreams at night.
  - B. The daughter tries to catch up with her shadow, and the mother puts beads on the thread.
  - C. The mother burns porcupine quills, and the daughter looks at the clouds in the sky.
  - D. The daughter learns beadwork from her mother, and the students imitate their mothers while playing.
-

## **Classroom Science Gets a Makeover**

(An Expository Reading Passage)

**by Sarah Goforth**

Read the following passage and answer the questions by circling the correct answer.

**For one North Carolina engineering professor, making science accessible to all means starting young. Together with a team of university engineering students, Laura Bottomley brought hands-on science to every elementary classroom in a local district.**

**April 6, 2005**

Laura Bottomley is handing out oranges in a fifth-grade classroom at Combs Elementary School in Wake County, North Carolina. Each fruit has been precut so that, when squeezed, the peels slip around and dribble juice. The lesson is not on nutrition, but plate tectonics, and the students are . . . well . . . eating it up.

The approach may be a little unusual, but then Bottomley is not an ordinary elementary school teacher. She's an engineering professor at North Carolina State University. For the past seven years, she and her colleague Elizabeth Parry have teamed engineering graduate students with Wake County teachers to make science more palatable to kids, hoping to persuade some to choose careers in science and engineering. When Bottomley learned one of the schools was short one science teacher, she volunteered. Her own interest in engineering sprang from student hood ambitions of being an astronaut. Now she takes the helm for an hour every morning, bringing what she calls an "inquiry-based" approach to the material. The idea, she explains, is to teach science as science is done: as an ongoing, hands-on experiment rather than as a set of facts to be learned from books. To explain how the Earth's tectonic plates shift and collide, for example, Bottomley told the students to play around with their oranges, inspect them and ask questions. She explained how orange juice is like lava, and how the upward bunching of peels is like the formation of mountain ridges.

"If you really want kids to learn science," Bottomley says, "you teach them not with facts and figures, but by doing . . . What matters is that they remember the process." Traditional textbook methods aren't appropriate for all learning styles, Bottomley argues, whereas an inquiry-based approach offers something for every sense — something to look at, probe, listen to, even smell. The kids love it, she says. And teachers, though often cautious at first, quickly see how a change in teaching style can help their students meet new curriculum standards. Some teachers, especially those who don't have a science background, may not be comfortable teaching technical subjects. Bottomley believes the resulting shortage of fun, hands-on science lessons explains, in part, why many groups — most notably women — are under-represented in the research community.

In 1999, she received a grant from the National Science Foundation's Graduate Teaching Fellows program to bring North Carolina State University engineering students into local schools. The Graduate Teaching Fellows program has twin goals: to offer graduate students teaching and outreach experiences, and to enhance science instruction in participating schools. The partnerships are a powerful force for innovation, Bottomley says. She began by working with teenagers, but quickly saw that high school students had already elected to pursue careers in science or not. Even middle school students, she learned, have already decided whether they are interested in science. So she decided that her time was most

needed in elementary schools. But the youngest learners, too, have some opinions about science.

To size up her new audience, Bottomley collected a series of photographs of famous scientists, representing both sexes and a range of ages and ethnic groups. She showed the pictures to groups of elementary students, asking them to spot the scientists. "We were certain, absolutely certain, they would pick all the white males, but the overwhelming correlation was that the scientists were the people who were not smiling," Bottomley recalls. "It was hilarious." And, for her, motivating. Introducing students to the amusing side of science, Bottomley reasoned, might get their attention. And showing students how science is done might even hold their attention for life.

In the next four years, Bottomley and 23 engineering graduate fellows went to every elementary school in the county, first meeting with teachers to design new types of science lessons and then helping to deliver them.

One of the graduate fellows, who was fluent in American Sign Language (ASL), worked directly with the hearing-impaired students at Combs Elementary in Raleigh. As she spoke with the students and their ASL-fluent teacher, she came to realize many basic scientific concepts cannot be communicated with ASL. The same sign, for example, is used for chemistry and physics. And there are no signs at all to describe the basic parts of an atom. Bottomley and the graduate fellow kept a running list of ASL words that could be useful in the classroom. Where no words existed, they invented new ones. For an electron, they would form the letter "E" and rotate the same hand in a circle to represent how electrons orbit the shell of an atom. "If you're going to make up signs, you might as well make ones up that represent what we're talking about," Bottomley explains. With help from the ASL-fluent teacher, the graduate fellow produced a handbook to help explain science to hearing-impaired students.

By the project's end in 2003, Bottomley's group had worked with more than 2,000 students and 75 teachers. The teachers learned how to mix science into math, social studies and physical education lessons, and how to appeal to students with different learning styles. The strategy worked: By the end of the program, the students expressed more interest at school, and parents reported that their students were talking about science and math more at home. "All of our graduate fellows have told us that involvement in this program has been of great interest to potential employers when they graduate," Bottomley reports, adding that the teaching experience convinced several of the fellows to become professors themselves.

Another indication of the program's impact came during the local science fair. In a first for the school, two hearing-impaired students entered, and one of them won. "I don't remember exactly what his project involved," mused Bottomley. "But I remember the look on his face when they called his name." Bottomley received another NSF grant in 2004 to develop inquiry-based math lessons. And this time, she has an eager cohort of fifth graders to help try out new ideas. "Here I am, writing all these proposals associated with inquiry-based learning," she says, "and now I get to try them out every morning. I love it."

## **Test Questions – Classroom Science Gets a Make-over**

- 1.** Read the sentence below from the passage.

*For the past seven years, she and her colleague Elizabeth Parry have teamed engineering graduate students with Wake County teachers to make science more palatable to kids, hoping to persuade some to choose careers in science and engineering.*

In the sentence, the word palatable probably means

- A.** ignorant.  
**C.** reckless.  
**B.** historical.  
**D.** attractive.
- 

- 2.** Read the sentence below from the passage.

*The Graduate Teaching Fellows program has twin goals: to offer graduate students teaching and outreach experiences, and to enhance science instruction in participating schools.*

In the sentence, the word enhance probably means

- A.** cease.  
**B.** forecast.  
**C.** mock.  
**D.** improve.
- 

- 3.** Read the sentence below from the passage.

*The lesson is not on nutrition, but plate tectonics, and the students are...well...eating it up.*

The sentence contains an example of which type of figurative language?

- A.** simile  
**B.** analogy  
**C.** idiom  
**D.** hyperbole
- 

- 4.** Read the following sentence below the passage: *She explained how orange juice is like lava, and how the upward bunching of peels is like the formation of mountain ridges.* The sentence contains an example of which type of figurative language?

- A.** analogy  
**B.** onomatopoeia  
**C.** hyperbole  
**D.** personification
-

**5.** When students were asked to identify the scientists in the photographs, they thought the scientists were the people who were

- A.** white males.
  - B.** not smiling.
  - C.** slightly older.
  - D.** looked funny.
- 

**6.** The passage is **mainly** about

- A.** teaching science using sign language.
  - B.** persuading kids to become scientists.
  - C.** new approaches to teaching science.
  - D.** teaching kids about famous scientists.
- 

**7.** Which method is **most** important to an inquiry-based approach?

- |                                  |   |
|----------------------------------|---|
| <b>A.</b> using sign language    | <b>B.</b> learning by doing experiments   |
| <b>C.</b> entering science fairs | <b>D.</b> talking about famous scientists |
- 

**8.** Which sentence from the passage is an opinion?

- A.** "Traditional textbook methods aren't appropriate for all learning styles."
  - B.** "Her own interest in engineering sprang from student hood ambitions of being an astronaut."
  - C.** "In a first for the school, two hearing-impaired students entered, and one of them won."
  - D.** "Each fruit has been precut so that, when squeezed, the peels slip around and dribble juice."
- 

**9.** Which sentence from the passage is a fact?

- A.** "What matters is that they remember the process."
  - B.** "She decided that her time was most needed in elementary schools."
  - C.** "And showing students how science is done might even hold their attention for life."
  - D.** "If you're going to make up signs, you might as well make ones up that represent what we're talking about."
- 

**10.** The author uses problem and solution as the structure of the passage **mainly** to

- A.** show how imaginative teaching methods can get more kids interested in science.
  - B.** compare traditional textbook methods of science teaching to the inquiry-based approach.
  - C.** explain how using new methods to teach science will cause more kids to become astronauts.
  - D.** describe the history of science education from textbook methods to hands-on methods.
-

**11.** The inquiry-based approach to teaching science is **different** from the textbook approach because the inquiry-based approach

- A.** involves doing experiments.
  - B.** requires learning facts and figures.
  - C.** works best for older students.
  - D.** can be used to teach plate tectonics.
- 

**12.** How did Bottomley's Graduate Teaching Fellows program affect the elementary school students she taught?

- A.** They won many local school science fairs.
  - B.** They invented new words for scientific concepts.
  - C.** They decided to go on to become science professors themselves.
  - D.** They showed more interest in school and talked about science and math.
- 

**13.** Bottomley decided to work with elementary school students rather than older students because

- A.** older students are not comfortable learning technical subjects.
  - B.** elementary school students have strong opinions about science.
  - C.** older students have already decided whether they like science.
  - D.** elementary school students have many different learning styles.
- 

**14.** Which **best** summarizes the first two paragraphs of the passage?

- A.** For the past seven years, engineering graduate students have been teaching science to kids. The approach uses experiments rather than textbooks.
  - B.** In one fifth-grade class, oranges are being used to help hearing-impaired students learn about science. The students are now more interested in math and science and might become engineers.
  - C.** Oranges are being used to illustrate the effects of plate tectonics on Earth. The juice is like lava and the bunching peels are like the formation of mountains.
  - D.** An engineering professor is teaching a fifth-grade class about plate tectonics by giving them oranges. She hopes the unusual approach will make science more fun so kids will choose science careers.
-

## **Arbor Day Farm Tree Adventure**

(A Technical Reading Passage)

Read the following passage and answer the questions by circling the correct answer.

The Arbor Day Farm is a working tree farm and orchard with exhibits that are open to the public. The Arbor Day Farm was once the home of J. Sterling Morton, the man who founded Arbor Day. One major exhibition of the Arbor Day Farm is the Tree Adventure, where visitors can get up close and personal with — what else? — trees!

### **A field trip to the Tree Adventure includes:**

#### Lied Greenhouse

A sea of green awaits your visit. Step into a future forest at Lied Greenhouse, home to thousands of seedling oaks, spruces, pines, and hazelnuts. Get a behind-the-scenes look at how trees are seeded, grown, and harvested. Each student will receive a FREE TREE to take home! Walk through an indoor simulated forest, complete with the sounds of songbirds, storms, and streams, while participating in interactive and entertaining exhibits. Learn the basics of tree identification and the importance of trees to our cities and towns. "Meet Mr. Morton" where a ghostly image of J. Sterling Morton will appear before your eyes to reminisce about his vision of Arbor Day. A special film "Trees in the Movies" has fun, engaging clips from movies where trees have played a starring role.

#### Tree House Trail

Hike a scenic, wooded trail focusing on the sights, sounds, and fragrances of the forest. Climb a tree house 50 feet high for a bird's-eye view of life in the forest. Solve mystery challenges in the Nature Club Cabin. Discover many wonders of the natural world — large and small.

#### Special Features for School or Youth Groups

- Discount on admission rates AND one teacher per classroom admitted free
- Trained guides available to help provide you and your students with the Tree Adventure experience most appropriate for your grade level or special area of interest
- Many activities correlate with national and state science education standards

#### Woodland Pavilion Special School or Youth Group Rates

While the Tree Adventure can be done with or without a guide, we highly recommend that a guide accompany your group for at least the first hour of your visit to enhance the educational experience. We can specially design a tour to meet your group needs and provide experiences that correlate with national and state science education standards. With a guide you can also incorporate some of our add-on tour and class options, such as the "Apple Harvest Tour," "Bees and Blossoms," and "Be a Tree Sleuth" (Tree I.D.) class. These tours are described below.

#### **Add-on Guided Tour and Class Options:**

##### Apple Harvest Tour:

September, October, and early November offer Arbor Day Farm visitors the opportunity to watch the apple harvest in various stages of production. Explore the

orchard and learn about different apple varieties. Watch Rube, our antique apple-sorting machine, wash, polish, and size the apples for packaging.

**Bees and Blossoms:**

Students will be introduced to the fascinating world of the honeybee as they watch the bees in action in the observation hive. In the spring, a trip to the orchard will provide a close look at the apple blossoms and the process of pollination.

**Be a Tree Sleuth:**

After engaging in a classification activity, participants will learn how to identify trees by their bark, shape, seeds/fruit, and leaves. Students will learn how to use a simple tree key and then will be given the opportunity to identify some trees. Take home a free Tree ID chart. (Best suited for 4th grade and up.)

**Arbor Day Farm Perimeter Tour:**

A guide will step onto your bus to point out the unique features of Arbor Day Farm. The tour includes apple orchards, Lied Lodge & Conference Center, Windbreak Arboretum, environmentally designed ArborLinks Golf Course, Fuelwood Energy Plant & Plantation, stream bioengineering, sustainable agriculture demonstrations, Morton Historic Barns, Apple House, and Preservation Orchard.

**Other Add-on Tour or Class Topics:**

- Seeds and How They Travel
- Renewable Energy
- Birds
- Web of Life
- Native American Plants Uses
- Wildlife Tracks and Signs
- Insects
- Recycling

These add-on options to the Tree Adventure admission can enhance your Arbor Day Farm experience. Many of these activities can be expanded to fulfill Boy Scout and Girl Scout badge requirements. Special Arbor Day Farm classes that focus on specific Scout badges are available at special troop rates.

## **Test Questions – Arbor Day Farm Tree Adventure**

- 1.** Read the sentence below from the passage.

*Walk through an indoor simulated forest, complete with the sounds of songbirds, storms, and streams, while participating in interactive and entertaining exhibits.*

In the sentence, the word simulated probably means

- A.** artificial.
  - B.** quiet.
  - C.** angry.
  - D.** jealous.
- 

- 2.** Knowing the meaning of the prefix *inter-* helps the reader understand that the word "interactive" means

- A.** active together.
  - B.** before being active.
  - C.** active between.
  - D.** in favor of being active.
- 

- 3.** Read the sentence below from the passage.

*A sea of green awaits your visit.*

The sentence contains which type of figurative language?

- A.** hyperbole
  - B.** personification
  - C.** metaphor
  - D.** onomatopoeia
- 

- 4.** The passage is **mainly** about

- A.** things to do at the Arbor Tree Farm.
  - B.** how trees are grown at the Arbor Tree Farm.
  - C.** why Arbor Day was originally started.
  - D.** the man who started Arbor Day.
- 

- 5.** Which sentence based on the passage is a fact?

- A.** Students visiting Lied Greenhouse take home free trees.
  - B.** Forests are important to our cities and towns.
  - C.** The Tree Adventure includes many entertaining exhibits.
  - D.** It is best if a guide accompanies student groups.
-

**6.** Under which subheading can the reader find information about the Arbor Day Farm Perimeter Tour?

- A.** "Tree House Trail"
  - B.** "Special Features for School or Youth Groups"
  - C.** "Woodland Pavilion Special School or Youth Group Rates"
  - D.** "Add-on Guided Tour and Class Options"
- 

**7.** The author uses subheadings mainly to

- A.** show what buildings are included in the tours.
  - B.** explain why classes are good for school groups.
  - C.** organize information about special tours and activities.
  - D.** summarize details about the different plants on the farm.
- 

**8.** Based on the passage, the farm where J. Sterling Morton lived is called Arbor Day Farm **most likely** because J. Sterling Morton

- A.** liked that name.
  - B.** was born on Arbor Day.
  - C.** gave it that name.
  - D.** thought of creating Arbor Day.
- 

**9.** The passage uses description as its text structure **mainly** to

- A.** list the reasons why visiting the Arbor Tree Farm is educational.
  - B.** tell readers what things they can do at the Arbor Tree Farm.
  - C.** explain to readers the history of the Arbor Tree Farm.
  - D.** compare the Arbor Tree Farm to other attractions.
- 

**10.** One thing the Lied Greenhouse and Tree House Trail have in common is that **both** include

- A.** tree identification exercises.
  - B.** sights and sounds of the forest.
  - C.** exhibits about the farm's founder.
  - D.** tours of the farm's apple orchards.
- 

**11.** Based on the passage, touring the farm in the fall is **different** from other times of year because in the fall visitors get to

- A.** view a film about trees.
  - B.** watch the apple harvest.
  - C.** receive discounted rates.
  - D.** tour the farm with a guide.
-

**12.** According to the passage, using a guide allows a group to

- A.** admit one teacher per classroom.
  - B.** bring a free tree home from the tour.
  - C.** watch an interesting film about trees.
  - D.** design a tour that meets their interests.
- 

**13.** Which **best** summarizes the section about Lied Greenhouse?

- A.** Lied Greenhouse is a place where classes can get special add-on tours. These tours cover apple harvesting, bees, birds, and recycling. The tours come with a tour guide.
  - B.** Visitors to Lied Greenhouse get to see thousands of young trees and learn how the trees grow. The Greenhouse also includes a simulated forest and tree identification.
  - C.** Lied Greenhouse includes a walk through a forest of oaks, spruces, and pines. Once in the Greenhouse, visitors learn all about harvesting apples.
  - D.** Visitors to Lied Greenhouse get a special view of the exhibits from a tree house high above the floor. The Greenhouse tour also includes information about how bees pollinate apple blossoms.
-

## **What You Can Do to Help Wildlife and Plants**

(A Persuasive Reading Passage)

Read the following passage and answer the questions by circling the correct answer.

When most people hear the term endangered species, they think of manatees, grizzly bears, whales, and other charismatic species. If these creatures don't live in your area, you might think there is nothing you can do to help endangered species. However, the current endangered species list contains almost 1,300 plants, birds, fish, mammals and other species that might live or migrate through your area. Private citizens can play a critical role in protecting our country's wildlife and plants. Pulling invasive weeds that are forcing out native plants, rebuilding crumbling river banks, planting native trees — these are things we all can do to help improve our lands so that they are a better place to live for wildlife and humans. All endangered and threatened species need your help, from the familiar and famous species, like the gray wolf, to the lesser-known but equally important species, such as the Karner blue butterfly and western lily. Here's how you can make a difference:

### **In your community**

- To learn about ways you can assist native wildlife in your area, contact your local U.S. Fish and Wildlife Service (FWS) office or your local natural heritage program or conservation data center.
- Volunteer at your local wildlife refuge.
- Join a local or national conservation association.
- Support natural areas and nature centers near you; work with other community members to maintain and restore local habitat. Contact your state or local fish and game office to learn how you can become involved in local community wildlife preservation efforts.
- Walk, ride your bike, carpool or use public transportation when possible.
- Don't litter.

### **At home**

- Don't put hazardous substances down your drain or in the trash. Things like paint thinner, furniture polish, and antifreeze can pollute our water or land, impacting people as well as wildlife.
- Keep litter, pet wastes, and leaves out of street gutters and storm drains. These outlets drain directly into lakes, streams, rivers and wetlands. Pet wastes contain bacteria and viruses that can threaten fish, wildlife, and people.
- Take unwanted, reusable items to a charitable organization or thrift shop.
- Recycle everything you can: newspapers, scrap papers, cans, glass, motor oil, plastics, appliances, etc.
- Don't leave water running. Turn off the tap when brushing your teeth or washing your face. Install water saving devices such as low-flow showerheads, which will save water and save you money.
- Turn the lights and TV off when you're out of the room.
- Use cloth, not paper, napkins.
- Write to companies that send unwanted junk mail and ask them to take you off their list.

### **In your yard or neighborhood park**

- To get more information on how you can collaborate with the FWS to restore wetlands and other important fish and wildlife habitats on your own property, check out the Partners for Fish and Wildlife Program.
- Plant native trees and bushes with berries or nuts that provide birds and other creatures with both places to live and something to eat. To learn how you can make your backyard wildlife-friendly, check out the National Wildlife Federation's Backyard Wildlife Habitat program. Contact your County Cooperative Extension Service or local native plant society for help in identifying native plants. Native species adapted to local climate conditions require less water and care to flourish.
- Put bird feeders and other wildlife attractants, such as birdhouses and baths, in your yard. (Birds can usually find enough food, but adequate water is hard to find.)
- Learn about natural insect controls as alternatives to pesticides.
- Pull weeds instead of using herbicides.
- Grow plants that are natural insect repellents, such as lemon balm, among your flowers and vegetables to help keep unwanted insects away.
- Buy or make your own backyard composter for your food waste products like coffee grounds, vegetables, fruit or other non-animal products. Compost is a natural fertilizer that enriches your soil. It is especially good for vegetable gardens.
- Plant a butterfly garden.

### **On vacation**

- Turn the heat down and turn off the water heater before you leave your home.
- Don't pick flowers or collect wild creatures for pets. Leave animals and plants where you find them.
- When possible, use bug spray that does not contain DEET, which is extremely harmful to amphibians like frogs and salamanders.

### **In your classroom**

- Ask your teachers to help you organize clean up days. Remove trash or invasive weeds from vacant lots or streams. Replant eroding river banks with native trees that will stabilize the soil and reduce the amount of dirt going into the river. This will not only improve the quality of water for fish and humans, it will provide habitat for birds and mammals.
- Plant a garden on your school grounds to attract wildlife, birds, and butterflies.
- Build homes for bats and birds.
- Hold a school Arbor Day native tree planting. Invite local officials.
- Explore nature in your neighborhood by celebrating National Wildlife Week at your school.

## **Test Questions – What You Can Do To Help Wildlife and Plants**

**1.** In the first paragraph under the subheading "In your yard or neighborhood park," the word collaborate probably means

- A.** conceal.
  - B.** compare.
  - C.** comment.
  - D.** cooperate.
- 

**2.** According to the passage, what is compost?

- A.** a natural fertilizer
  - B.** an insect repellent
  - C.** a native plant
  - D.** an endangered species
- 

**3.** Knowing the meaning of the suffix *-ive* helps readers know the word "invasive" means

- A.** wrongly invade.
  - B.** to invade before.
  - C.** inclined to invade.
  - D.** to invade between.
- 

**4.** Which sentence **best** supports the author's position that street gutters should not be used to dispose of hazardous substances?

- A.** "These outlets drain directly into lakes, streams, rivers and wetlands."
  - B.** "Native species adapted to local climate conditions require less water and care to flourish."
  - C.** "If these creatures don't live in your area, you might think there is nothing you can do to help endangered species."
  - D.** "This will not only improve the quality of water for fish and humans, it will provide habitat for birds and mammals."
- 

**5.** Which persuasive technique does the author use to support the position that everyone can play a part in helping wildlife and plants?

- A.** glittering generalities
  - B.** statistics
  - C.** bandwagon approach
  - D.** testimonials
-

- 6.** Which sentence from the passage is an opinion?
- A.** "Pet wastes contain bacteria and viruses that can threaten fish, wildlife, and people."
  - B.** "Write to companies that send unwanted junk mail and ask them to take you off their list."
  - C.** "Private citizens can play a critical role in protecting our country's wildlife and plants."
  - D.** "To learn about ways you can assist native wildlife in your area, contact your local U.S. Fish and Wildlife Service (FWS) office or your local natural heritage program or conservation data center."
- 

- 7.** Which sentence from the passage is a fact?
- A.** "When most people hear the term endangered species, they think of manatees, grizzly bears, whales, and other charismatic species."
  - B.** "Pet wastes contain bacteria and viruses that can threaten fish, wildlife, and people."
  - C.** "Buy or make your own backyard composter for your food waste products like coffee grounds, vegetables, fruit, or other nonanimal products."
  - D.** "Put bird feeders and other wildlife attractants, such as bird houses and baths, in your yard."
- 

- 8.** The author uses subheadings **mainly** to
- A.** tell readers which steps were written about first.
  - B.** show the order in which you should take the steps.
  - C.** explain why some steps are more important than others.
  - D.** organize information based on different steps you can take.
- 

- 9.** Based on the passage, which does wildlife **most likely** need to survive?
- |                  |                     |
|------------------|---------------------|
| <b>A.</b> litter | <b>C.</b> compost   |
| <b>B.</b> water  | <b>D.</b> herbicide |
- 

- 10.** The first two paragraphs of the section titled "At home" use cause and effect as the text structure **mainly** to
- A.** list the different substances that can be harmful to wildlife.
  - B.** instruct readers how paint thinner and antifreeze can be properly disposed of.
  - C.** compare different kinds of paint thinner to pet wastes.
  - D.** explain why some substances should be kept out of the trash and drains.
-

**11.** According to the passage, native plants are better than non-native plants because native plants

- A.** repel insects naturally.
  - B.** provide food for wildlife.
  - C.** require less water and care.
  - D.** produce natural fertilizer.
- 

**12.** The gray wolf and the western lily are **similar** in that they both are

- A.** familiar species.
  - B.** invasive species.
  - C.** hazardous species.
  - D.** endangered species.
- 

**13.** If gardeners planted plants that were natural insect repellents, they would **most likely** need less

- A.** fertilizer.
  - B.** pesticide.
  - C.** herbicide.
  - D.** compost.
- 

**14.** Which **best** summarizes the section, "In your classroom"?

- A.** Do not put hazardous chemicals down the drain or in the trash. Recycle everything you can. Take unwanted, reusable items to thrift shops.
  - B.** Plant native trees that provide food for birds and other creatures. Put bird feeders and bird baths in your backyard. Use natural insect controls instead of pesticides.
  - C.** Get teachers to help you remove trash and weeds. Plant native trees. Plant a garden at your school, or hold a school Arbor Day tree planting.
  - D.** Turn the heat down and turn the water off in your house before going on vacation. Do not pick flowers or collect animals. Try not to use bug spray that contains DEET.
-

## **Answer Keys**

NOTE:

You can access more Reading Passages via the LVS Junior High School webpage by clicking on the Kansas Assessment Information tab on the left hand side of the Internet screen.

### **Answer Key**

#### **The Beadwork**

1. Correct Answer: D
2. Correct Answer: C
3. Correct Answer: C
4. Correct Answer: C
5. Correct Answer: A
6. Correct Answer: A
7. Correct Answer: B
8. Correct Answer: B
9. Correct Answer: A
10. Correct Answer: C
11. Correct Answer: C
12. Correct Answer: C
13. Correct Answer: A
14. Correct Answer: A
15. Correct Answer: A
16. Correct Answer: A
17. Correct Answer: B
18. Correct Answer: B
19. Correct Answer: D
20. Correct Answer: D

### **Answer Key**

#### **Classroom Science Gets a Makeover**

1. Correct Answer: D
2. Correct Answer: D
3. Correct Answer: C
4. Correct Answer: A
5. Correct Answer: B
6. Correct Answer: C
7. Correct Answer: B
8. Correct Answer: A
9. Correct Answer: B
10. Correct Answer: A
11. Correct Answer: A
12. Correct Answer: D
13. Correct Answer: C
14. Correct Answer: D

### **Answer Key**

#### **Arbor Day Farm Tree Adventure**

1. Correct Answer: A
2. Correct Answer: C
3. Correct Answer: C
4. Correct Answer: A
5. Correct Answer: A
6. Correct Answer: D
7. Correct Answer: C
8. Correct Answer: D
9. Correct Answer: B
10. Correct Answer: B
11. Correct Answer: B
12. Correct Answer: D
13. Correct Answer: B

### **Answer Key**

#### **What You Can Do to Help Wildlife and Plants**

1. Correct Answer: D
2. Correct Answer: A
3. Correct Answer: C
4. Correct Answer: A
5. Correct Answer: A
6. Correct Answer: C
7. Correct Answer: B
8. Correct Answer: D
9. Correct Answer: B
10. Correct Answer: D
11. Correct Answer: C
12. Correct Answer: D
13. Correct Answer: B
14. Correct Answer: C