### Reporting Category: Number and Number Sense

**Number of Items: 7**

5.1 The student, given a decimal through thousandths, will round to the nearest whole number, tenth, or hundredth.

<table>
<thead>
<tr>
<th>Place Value Puzzler</th>
<th><a href="http://www.funbrain.com/tens">www.funbrain.com/tens</a></th>
</tr>
</thead>
</table>

5.2 The student will *(complete items without the use of a calculator)*

| a) recognize and name fractions in their equivalent decimal form and vice versa; and |
| b) compare and order fractions and decimals in a given set from least to greatest and greatest to least. |

| National Library of Virtual Manipulatives | http://nlvm.usu.edu/en/nav/grade_g_2.html (scroll to fraction choices) |

5.3 The student will

| a) identify and describe the characteristics of prime and composite numbers; and |
| b) identify and describe the characteristics of even and odd numbers. |

| Math is Fun Tutorial | http://www.mathsisfun.com/prime-composite-number.html |
| Fruit Shoot         | http://www.sheppardsoftware.com/mathgames/numbers/fruit_shoot_prime.htm |
SOL 5.1
1. When rounded to the nearest hundredth, which of the following decimals would round to 740.39?
   
   F 740.398  G 740.391  H 740.387  J 740.139

2. What is 476.367 rounded to the nearest whole number?
   
   ____________

3. True or False? 6.675 rounded to the nearest hundredth is 6.67.
   
   ____________

SOL 5.2
1. Paul needs $\frac{1}{2}$ quart of oil in his car. Which of the following amounts is equivalent to $\frac{1}{2}$ quart?
   
   A 0.25 quart  B 0.50 quart  C 0.75 quart  D 0.80 quart

2. Karla ate $\frac{3}{5}$ of her pizza. Which model shows $\frac{3}{5}$ as a decimal?
   
   F  G  H  J

3. Look at the number line drawn below. What is the decimal value of A?
   
   A 0.80  B 0.60  C 0.40  D 0.20

4. Look at the fraction in the box.

   $\frac{8}{10}$
Which decimal is equivalent to the fraction \( \frac{8}{10} \)?

F 0.10  G 0.8  H 0.5  J 0.4

Mrs. Jackson shaded these five decimal models. She wants to order the decimals from greatest to least.

Which set of decimals is correctly ordered from greatest to least?

A 0.25, 0.53, 0.8, 0.78, 0.6
B 0.78, 0.53, 0.25, 0.8, 0.6
C 0.8, 0.53, 0.6, 0.78, 0.25
D 0.8, 0.78, 0.6, 0.53, 0.25

SOL 5.3

1 Which list contains only numbers that are prime?
   A 1, 3, 5, 7, 9
   B 1, 3, 5, 7, 11
   C 2, 3, 5, 7, 9
   D 2, 3, 5, 7, 11

2 Which lists contain one prime number and two composite numbers?
   1, 33, 45  2, 45, 77  7, 45, 77
   7, 33, 45  2, 13, 33  1, 13, 33
Reporting Category: Computation and Estimation  
Number of Items: 13  

5.4 The student will (complete items without the use of a calculator) create and solve single- step and multistep practical problems involving addition, subtraction, multiplication, and division with and without remainders of whole numbers.


5.5 The student will (complete items without the use of a calculator)
   a) find the sum, difference, product, and quotient of two numbers expressed as decimals through thousandths (divisors with only one nonzero digit); and
   b) create and solve single-step and multistep practical problems involving decimals.


5.6 The student will (complete items without the use of a calculator) solve single-step and multistep practical problems involving addition and subtraction with fractions and mixed numbers and express answers in simplest form.


5.7 The student will (complete items without the use of a calculator) evaluate whole number numerical expressions, using the order of operations limited to parentheses, addition, subtraction, multiplication, and division.

POLYA’s Problem Solving Process

1. UNDERSTAND THE PROBLEM
2. DEVISING A PLAN
3. CARRYING OUT THE PLAN
4. LOOKING BACK

5.4Sd,e
The local theater is featuring a show called *Dances Around the World*. Using the table below, how much would it cost for a group of 3 adults and 5 children to attend this show?

<table>
<thead>
<tr>
<th>Admission</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adults</td>
</tr>
<tr>
<td>Children</td>
</tr>
</tbody>
</table>

**Answer:** _________________________________________________

5.5aSc
**What is the product of 25.8 and 4.2?**
A  15.48  
B  108.36  
C  154.8  
D  1,083.6

5.5aSd
**$33.2 \div 8 =**

**Answer** _________________________________________________

5.5Sb
**Alex wants to find out how much his baseball collection is worth. By checking some internet resources, he finds that two cards are worth $25.50 each, and his other card is worth $15.75. How much are these three cards worth altogether?**

**Answer** _________________________________________________
5.6Sa
Cynthia needs 2 cups of sugar according to her recipe. She has 1/8 cup from the one container and 3/4 cup from the second container. How much more does she need?

A  \[ \frac{1}{8} \]  
B  \[ \frac{1}{4} \]  
C  \[ \frac{1}{2} \]  
D  \[ \frac{1}{4} \]

5.6
Joanna worked 8 1/2 hours on Monday. On Tuesday, she worked 2 2/3 hours. What is the difference in the hours she worked on Monday and the hours she worked on Tuesday?

Answer _________________________________________________

5.7
Using the order of operations, which calculation should be done first to simplify this expression?

\[ 31 + 17 \times (10 + 26) \div 3 \]

A  \[ 17 \times 10 \]  
B  \[ 26 \div 3 \]  
C  \[ 31 + 17 \]  
D  \[ 10 + 26 \]
2  Which shows the correct way to solve this expression using the order of operations?

\[2 \times 8 - 4 \div 4\]

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>F</td>
<td></td>
</tr>
<tr>
<td>H</td>
<td></td>
</tr>
<tr>
<td>G</td>
<td></td>
</tr>
<tr>
<td>J</td>
<td></td>
</tr>
</tbody>
</table>

3  What is the value of this numerical expression?

\[42 \div 6 \times (5 + 3)\]

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>A</td>
<td>56</td>
</tr>
<tr>
<td>B</td>
<td>43</td>
</tr>
<tr>
<td>C</td>
<td>33</td>
</tr>
</tbody>
</table>
5.8 The student will
   a) find perimeter, area, and volume in standard units of measure;
   b) differentiate among perimeter, area, and volume and identify whether the application of the concept of perimeter, area, or volume is appropriate for a given situation;
   c) identify equivalent measurements within the metric system;
   d) estimate and then measure to solve problems, using U.S. Customary and metric units; and choose an appropriate unit of measure for a given situation involving measurement using U.S. Customary and metric units.

5.9 The student will identify and describe the diameter, radius, chord, and circumference of a circle.

5.10 The student will determine an amount of elapsed time in hours and minutes within a 24-hour period.

5.11 The student will measure right, acute, obtuse, and straight angles.

5.12 The student will classify
   a) angles as right, acute, obtuse, or straight; and
   b) triangles as right, acute, obtuse, equilateral, scalene, or isosceles.

5.13 The student, using plane figures (square, rectangle, triangle, parallelogram, rhombus, and trapezoid), will
   a) develop definitions of these plane figures; and
   b) investigate and describe the results of combining and subdividing plane figures.
5.8
1 Which could be the unit used to measure the height of a giraffe?
   F grams
   G gallons
   H feet
   J pounds

2 Henry measured the weight of an object in pounds. Henry most likely measured a -
   A school bus
   B bag of potatoes
   C cup of raisins
   D bottle cap

3 Which measurement is closest to the amount of water it would take to fill a kitchen sink?
   F 4 gallons
   G 4 pints
   H 4 cups
   J 4 milliliters

4 Shade the Fahrenheit and Celsius thermometers to show normal body temperature.
5.9
Follow the directions listed to draw and label the parts of a circle.

- Label the center of the circle, $C$
- Draw and label a chord, $DG$
- Draw and label a diameter, $EF$
- Draw and label a radius, $GC$
- Use a colored pencil to outline the circumference of this circle.
- Describe the relationship between the diameter and radius:

5.10
1 Josh went to his friend’s house to spend the night. He arrived at 6:53 p.m. He left the next morning at 11:15 a.m. How long did Josh spend at his friend’s house?

A 4 hours and 22 minutes
B 4 hours and 38 minutes
C 16 hours and 22 minutes
D 17 hours and 38 minutes

2 When Mr. Mac pulled into the parking garage to park his car, the time stamped on his ticket was 10:12 a.m. The time when he left the garage that afternoon was 5:43 p.m.
What length of time was Mr. Mac’s car in the parking garage?

F 7 hr 31 min  H 15 hr 31 min
G 7 hr 55 min  J 15 hr 55 min

3 A race started at 12:16 P.M. The first person to cross the finish line came in at 1:22 P.M. How long did it take the first person to reach the finish line?

A 1 hour, 6 minutes  C 2 hours, 38 minutes
B 2 hours, 6 minutes  D 13 hours, 38 minutes

5.11 and 5.12
1 This triangle has an angle measuring 90°.

What type of triangle is this?

A acute°  C right
B obtuse  D congruent

2 Which triangle can be classified as both right and scalene?
3 A straight angle measure is exactly -

F 30°  
G 60°  
H 120°  
J 180°

4 Paul was trying to classify the triangle.

What is the best classification for the triangle drawn?

A acute and scalene triangle  
B right and isosceles triangle  
C congruent and similar triangle  
D obtuse and equilateral triangle

5 The sum of the \(\angle CRD\) and \(\angle DRE\) is 180°.

Which equation can be used to find the measure of the unknown angle?

F \(125° = x + 180°\)  
G \(125° = x - 180°\)  
H \(180° = 125° - x\)  
J \(180 = 125° + x\)
6 Which angle measures closest to 60°?

F H

G J

5.13

1 A square can be classified as all of the following EXCEPT –

F rectangle
G parallelogram
H quadrilateral
J trapezoid

2. Give a definition and a picture of the following:
   a. square-
   b. rectangle
   c. rhombus
   d. parallelogram
   e. trapezoid
**Reporting Category: Probability, Statistics, Patterns, Functions, and Algebra**

**Number of Items: 18**

5.14 The student will make predictions and determine the probability of an outcome by constructing a sample space.

Tree diagrams
http://www.regentsprep.org/regents/math/algebra/APR4/PracTre.htm

5.15 The student, given a problem situation, will collect, organize, and interpret data in a variety of forms, using stem-and-leaf plots and line graphs.

Purple Math http://www.purplemath.com/modules/stemleaf.htm

5.16 The student will
   a) describe mean as fair share;
   b) find the mean, median, mode, and range of a set of data; and
   c) describe the range of a set of data as a measure of variation.

Bamzooki
http://www.bbc.co.uk/schools/ks2bitesize/maths/data/mode_median_mean_range/play.shtml
Quiz
http://www.bbc.co.uk/apps/ifl/schools/ks2bitesize/maths/quizengine?quiz=mode_median_mean&templateStyle=maths

5.17 The student will describe the relationship found in a number pattern and express the relationship.

5.18 The student will
   a) investigate and describe the concept of variable;
   b) write an open sentence to represent a given mathematical relationship, using a variable;
   c) model one-step linear equations in one variable, using addition and subtraction; and
   d) create a problem situation based on a given open sentence, using a single variable.

Model Equations on Scale
http://www.mathplayground.com/AlgebraEquations.html
5.19 The student will investigate and recognize the distributive property of multiplication over addition.


5.14

1. Landon has to create a habitat model. He will choose one habitat and one animal. The chart lists the different animal and habitat choices.

<table>
<thead>
<tr>
<th>Habitats:</th>
<th>Animals:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Desert</td>
<td>Mammals</td>
</tr>
<tr>
<td>Grasslands</td>
<td>Birds</td>
</tr>
<tr>
<td>Forest</td>
<td>Reptiles</td>
</tr>
</tbody>
</table>

Which lists all the possible combinations of 1 habitat and 1 animal that Landon can choose to create his model?

A. Desert, Mammal
   Grasslands, Bird
   Forest, Reptile

B. Desert, Mammal
   Desert, Reptile
   Grasslands, Bird
   Grasslands, Mammal
   Forest, Mammal

C. Desert, Mammal
   Desert, Bird
   Grasslands, Reptile
   Grasslands, Mammal
   Forest, Bird
   Forest, Reptile

D. Desert, Mammal
   Desert, Bird
   Desert, Reptile
   Grasslands, Mammal
   Grasslands, Bird
   Grasslands, Reptile
   Forest, Mammal
   Forest, Bird
   Forest, Reptile
2 Eric has a red pencil, an orange pencil, and a brown pencil. He also has a baseball eraser, a basketball eraser and a football eraser. How many different combinations of pencils and erasers can Eric make?

F 2
G 3
H 6
J 9

3 Sharon is serving ice cream treats at her party. She has vanilla, chocolate, and peach ice cream. For toppings she has hot fudge, butterscotch, and strawberry sauces.

Draw a tree diagram that shows all the possible outcomes of ice cream treats Sharon can make with 1 ice cream flavor and 1 sauce.

5.15
1 The chart shows the number of words Mr. Kellen’s fifth graders can type per minute.

| 24 | 35 | 45 | 18 | 20 | 31 | 20 |
| 19 | 17 | 39 | 25 | 33 | 40 | 19 |

Write the numbers in the data set in order from least to greatest.

Construct a stem-and-leaf plot to correctly display the data.

<table>
<thead>
<tr>
<th>Stem</th>
<th>Leaf</th>
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<tbody>
<tr>
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5.16  
1. A list of five test scores were 60, 67, 73, 63 and 67. Find the following:
   a) Mean
   b) Median
   c) Mode
   d) Range

2. Seven people were asked how many miles they lived from school. The responses were 15, 7, 14, 21, 5, 9 and 13. Find the following:
   a) Mean
   b) Median
   c) Mode
   d) Range

5.17 and 5.18  
1. If the variable \( J \) represents a number, which means “5 more than a number”?

   \( \text{F} \quad J \times 5 \quad \text{H} \quad J + 5 \)
   \( \text{G} \quad J - 5 \quad \text{J} \quad J \div 5 \)

2. Dorothy ate 4 times the number of cookies her brother Ben ate. Ben ate 3 cookies. Which number sentence can be used to find out the number of cookies Dorothy ate?

   \( \text{A} \quad C = 4 - 3 \quad \text{C} \quad C = 4 \div 3 \)
   \( \text{B} \quad C = 4 + 3 \quad \text{D} \quad C = 4 \times 3 \)

3. In the open sentence \( 3r = 33 \), the letter \( r \) represents -

   \( \text{F} \quad \text{a multiplication symbol} \quad \text{H} \quad \text{a multiplication problem} \)
   \( \text{G} \quad \text{a number sentence} \quad \text{J} \quad \text{an unknown number} \)
4. Use the equation mat to answer the question.

Which equation represents the model shown?

A. \( a + 2 = 8 \)  
B. \( 2 - a = 8 \)  
C. \( a \div 2 = 8 \)  
D. \( 2a = 8 \)

5.19
1. Using the Distributive Property of Multiplication, complete the following equation:
   \( 4(3 + 1) = \)

A. \( (4 \times 3) + 1 \)  
B. \( (4 + 3) \times (4 + 1) \)  
C. \( (3 + 1)4 \)  
D. \( (4 \times 3) + (4 \times 1) \)
2 Which equation shows the correct use of the distributive property?

F (9 + 6) + 3 = 3 + (9 + 6)
G 9(6 + 3) = 9 \times 6 + 9 \times 3
H (3 + 5) \times 9 = (5 + 3) \times 9
J (6 \times 3) + (5 \times 3) = (6 \times 3) + (3 \times 5)

3 Which expression can be used to solve the problem?

3 \times 48 =

A 3 (40 + 8)
B 3 (40 \times 8)
C (3 \times 4) + (3 \times 8)
D (3 + 40) + (3 + 8)