Summer Math 2019

Students Entering 8th Grade

Dear Rising 8th Grade Students and Families:

The 7th and 8th Grade math team has identified the following skills as the most critical for students as they start 8th grade. Students should work through this packet, as necessary, with the goal that that they are proficient in these skills in September. This will be assessed with a T.A.Q. (Try Again Quiz) that will be given during the first half of September. Students will re-take the T.A.Q. until they demonstrate mastery of these skills by getting no more than one problem incorrect.

This packet is not a mandatory assignment, and will not be graded. However, students who enter the 8th Grade without competency in these skills will most likely struggle to keep up with the curriculum. Putting in some time over the summer to reinforce these concepts and skills will be greatly beneficial for students as they begin 8th Grade.

Sincerely,

Jesse Carson and Dawn Galolo

Refresher Worksheet 1: Scale Drawings

1. The Empire State Building in New York City is about 1,450 feet high (including the antenna at the top) and 400 feet wide. Andre wants to make a scale drawing of the front view of the Empire State Building on an $8\frac{1}{2}$-inch-by-11-inch piece of paper. Select a scale that you think is the most appropriate for the scale drawing. Explain your reasoning.

1 inch to 1 foot   1 inch to 100 feet   1 inch to 1 mile

1 centimeter to 1 meter   1 centimeter to 50 meters

1 centimeter to 1 kilometer

2. Elena finds that the area of a house on a scale drawing is 25 square inches. The actual area of the house is 2,025 square feet. What is the scale of the drawing?

3. Which of these scales are equivalent to 3 cm to 4 km? Select **all** that apply. Recall that 1 inch is 2.54 centimeters.

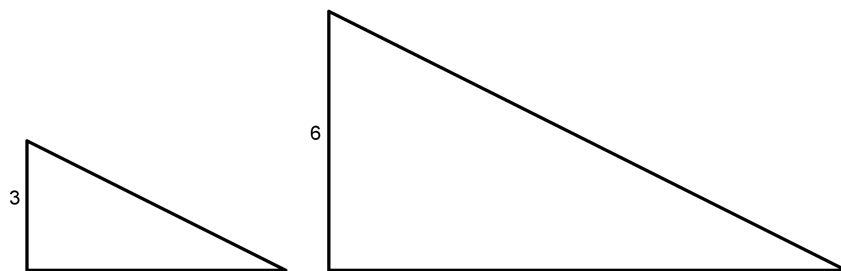0.75 cm to 1 km   1 cm to 12 km   6 mm to 2 km

0.3 mm to 40 m   1 inch to 7.62 km

4. These two triangles are scaled copies of one another. The area of the smaller triangle is 9 square units. What is the area of the larger triangle? Explain or show how you know.

Refresher Worksheet 2: Rational Number Arithmetic

1. Match each situation to one of the equations.

_____A whale was diving at a rate of 2 meters per second. How long will it take for the whale to get from the surface of the ocean to an elevation of -12 meters at that rate?

_____A swimmer dove below the surface of the ocean. After 2 minutes, she was 12 meters below the surface. At what rate was she diving?

_____The temperature was -12 degrees Celsius and rose to 2 degrees Celsius. What was the change in temperature?

_____The temperature was 2 degrees Celsius and fell to -12 degrees Celsius. What was the change in temperature?

a. $-12 + x = 2$ b. $2 + x = -12$

c. $-2x = -12$ d. $2x = -12$

2. Starting at noon, the temperature dropped steadily at a rate of 0.8 degrees Celsius every hour.

For each of these situations, write and solve an equation and describe what your variable represents.

a. How many hours did it take for the temperature to decrease by 4.4 degrees Celsius?

b. If the temperature after the 4.4 degree drop was -2.5 degrees Celsius, what was the temperature at noon?

Refresher Worksheet 3: Expressions and Equations

1. Jada says, "I can tell that $\frac{-2}{3}(x+5) + 4(x+5) - \frac{10}{3}(x+5)$ equals 0 just by looking at it." Is Jada correct? Explain how you know.

2. In each row, decide whether the expression in column A is equivalent to the expression in column B. If they are not equivalent, show how to change one expression to make them equivalent.

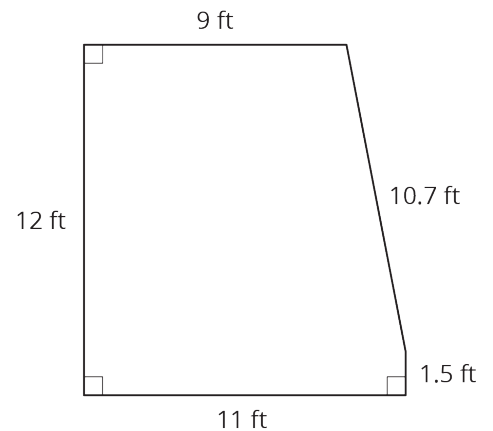| A	B
$3x - 2x + 0.5x$	$1.5x$
$3(x+4) - 2(x+4)$	$x+3$
$6(x+4) - 2(x+5)$	$2(2x+7)$
$3(x+4) - 2(x+4) + 0.5(x+4)$	1.5

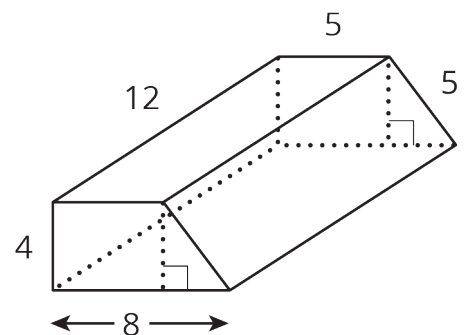**Refresher Worksheet 4: Angles, Triangles, and Prisms**

1. How much water will be needed to fill this pool 4 feet deep?

2. Before filling up the pool, it gets lined with a plastic liner. How much liner is needed for this pool?

3. Shade in a base of the trapezoidal prism. (Be careful! The base is not the same as the bottom.)

Find the area of the base you shaded.

4. Find the volume of this trapezoidal prism.

Refresher Worksheet 5: Equation Practice

Solve each equation. Show all steps, including checking your answer. Use a tape diagram or hanger if necessary.

1. $3x + 7 = 28$ 2. $-3(x + 2) = 15$

3. $-2x + 5 + 4x = 15$ 4. $17 - 4x = 9$

Open Up Resources