**Topic: Expressions and Equations**
**CCSS: 6.NS.6, 6.EE.5, 6.EE.7, 6.EE.8 and 6.EE.9**

## Homework Day 5

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### THE NUMBER SYSTEM (6.NS.8)

Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane. Include use of coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate.

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1. The coordinates of the vertices of a rectangle are $(-1, 4), (5, 4), (5, -3),$ and $(-1, -3)$. What are the dimensions of the rectangle?

2. The point $(-3, -3)$ is reflected across the x-axis. What are the coordinates of the new point?

3. The coordinates of point $A$ are $(-5, 6)$. The coordinates of point $B$ are $(2, 6)$. Find the length of the line segments with end points $A$ and $B$.

4. The coordinates of point $C$ are $(0, -2)$. The coordinates of point $D$ are $(0, 9)$. Find the length of the line segments with end points $C$ and $D$.

5. Jeffrey's walks to the library every day after school. The library is located at $(-5, -3)$ on the map. Graph and label this point. Each unit on the coordinate plane represents 1 block. What is the distance from Jeffrey's house to the library in blocks?
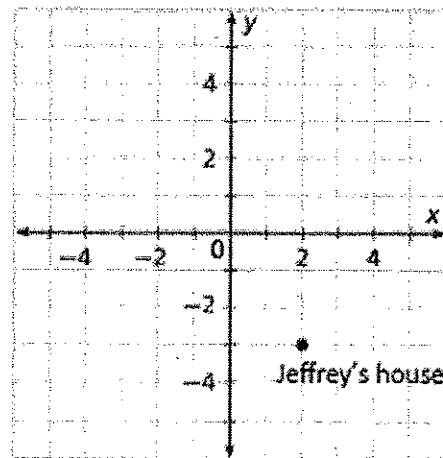
## GEOMETRY (6.G.2)

Find the volume of a right rectangular prism with fractional edge lengths by packing it with unit cubes of the appropriate unit fraction edge lengths, and show that the volume is the same as would be found by multiplying the edge lengths of the prism.

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|---|---|
| 1. The base of a right rectangular prism has an area of 84.6 square centimeters and a height of 7 centimeters. What is the volume, in cubic centimeters, of the right rectangular prism? | 2. A box in the shape of a right rectangular prism has a length of 6 inches, a width of 3.5 inches, and a height of 4.65 inches. What is the volume, in cubic inches, of the box? |
| 3. A flower box is 3 ft. long $2\frac{3}{4}$ ft. wide and $\frac{1}{2}$ ft. deep. How many cubic feet of dirt can it hold? | 4. The diagram shows a 580-cubic-feet storage room. What is the height of the storage room?  20 ft  8 ft |
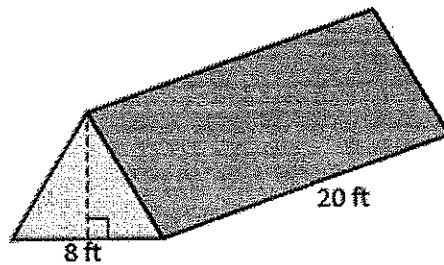
5. A bakery ships products in a 20-inch by 10-inch by 10-inch rectangular carton. Boxes of cupcakes are packaged in a 6-inch by 2-inch by 5-inch box. The company places 20 boxes of cupcakes in a carton and fills the rest of the space with packing material. What volume of space was filled with packing material?

## GEOMETRY (6.G.4)

Represent three-dimensional figures using nets made up of rectangles and triangles, and use the nets to find the surface area of these figures. Apply these techniques in the context of solving real-world and mathematical problems.

1. The diagram shows the dimensions of a gift box that Gloria needs to wrap. What is the least amount of wrapping paper needed to completely cover the box?

   2.6 in
   12 in
   9 in
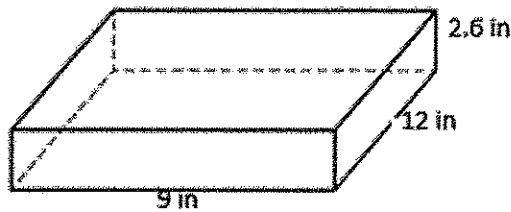
2. The diagram shows the gift box Fernando plans to wrap. He wants to use the least amount of wrapping paper needed to completely cover the box. A sheet of wrapping paper is 600 square inches. How much wrapping paper would Fernando have left after wrapping the box?

   1.2
   7 in.
   10 in.
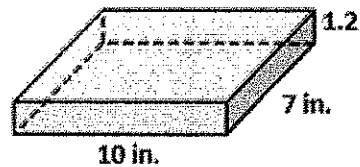
3. The diagram shows the dimensions of a canvas tent. How much canvas fabric does Lorna need to make the tent, including the floor?

   4.7 ft
   4.7 ft
   4 ft
   6 ft
   5 in
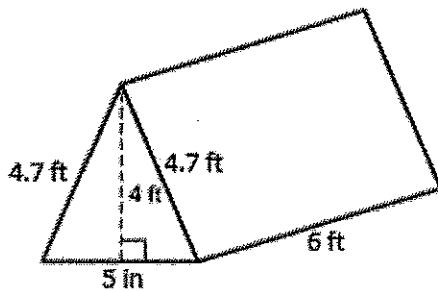
4. Lorna uses a sheet of paper to make a model of a pyramid. The model has a square base with side lengths of 6 inches. The slant height of the model is 7 inches. How much paper was used to make the model, including the base?

5. A net of a square pyramid is shown. What is the surface area, in square centimeters, of the pyramid?

   3.9 cm
   3.1 cm