Lesson 17 Practice Problems

1. Select **all** the points that are on the line through $(0, 5)$ and $(2, 8)$.

   A. $(4, 11)$

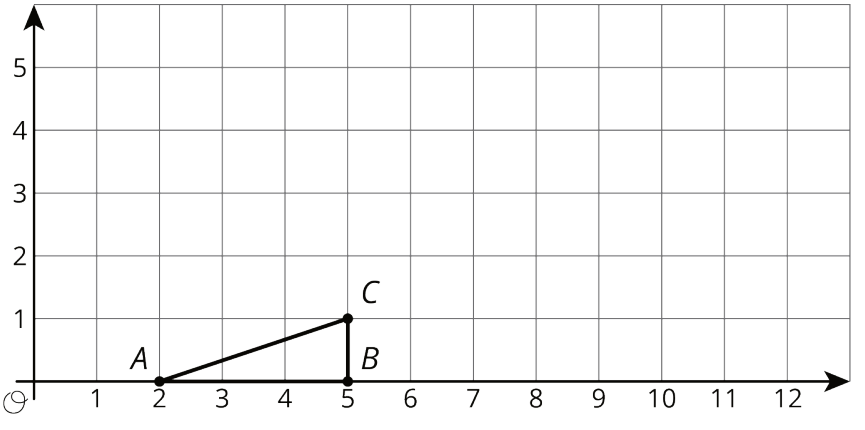
   B. $(5, 10)$

   C. $(6, 14)$

   D. $(30, 50)$

   E. $(40, 60)$

2. Here is triangle ABC.



   a. Draw the dilation of triangle ABC with center $(2, 0)$ and scale factor 2.

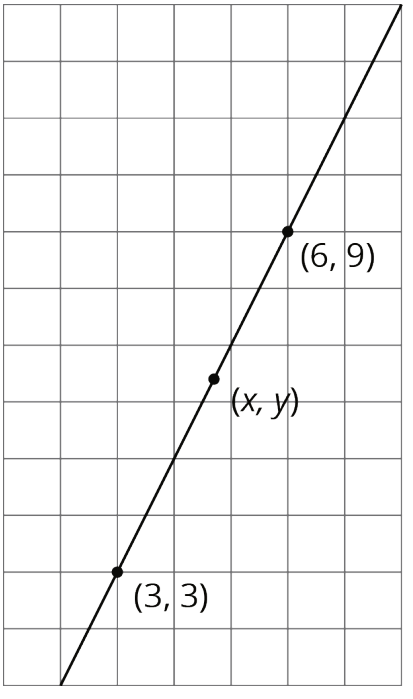
   b. Draw the dilation of triangle ABC with center $(2, 0)$ and scale factor 3.

   c. Draw the dilation of triangle ABC with center $(2, 0)$ and scale factor $\frac{1}{2}$.

   d. What are the coordinates of the image of point C when triangle ABC is dilated with center $(2, 0)$ and scale factor s?

   e. Write an equation for the line containing all possible images of point C.

3. All three points displayed are on the line. Find an equation relating x and y.



4. 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.

   a. 1 inch to 1 foot

   b. 1 inch to 100 feet

   c. 1 inch to 1 mile

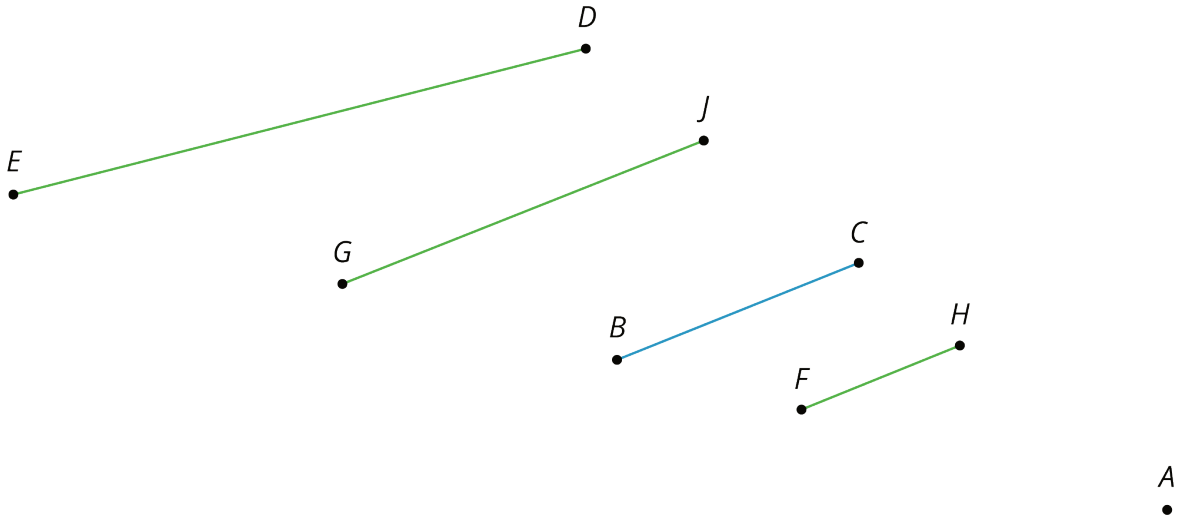
   d. 1 centimeter to 1 meter

   e. 1 centimeter to 50 meters

   f. 1 centimeter to 1 kilometer

(From Unit 2, Lesson 7.)

5. Here are some line segments.



a. Which segment is a dilation of $\overline{BC}$ using A as the center of dilation and a scale factor of $\frac{2}{3}$?

b. Which segment is a dilation of $\overline{BC}$ using A as the center of dilation and a scale factor of $\frac{3}{2}$?

c. Which segment is not a dilation of $\overline{BC}$, and how do you know?

(From Unit 2, Lesson 10.)