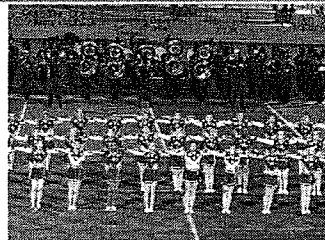# Name: Connecting Algebra and Geometry | 7.1
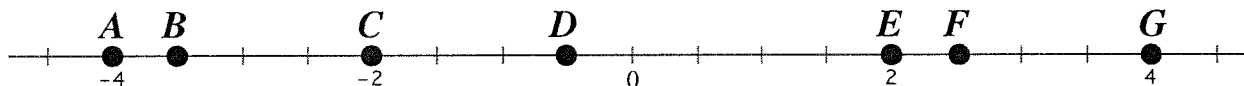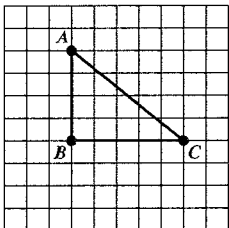
Ready, Set, Go!

Ready
Topic: Finding the distance between two points

Use the number line to find the distance between the given points. (The notation AB means the distance between points A and B.)

1. AE   2. CF   3. GB   4. CA   5. BF   6. EG

7. Describe a way to find the distance between two points on a number line without counting the spaces.

8.

a. Find AB

b. Find BC

c. Find AC

9. Why is it easier to find the distance between points A and B and points B and C than it is to find the distance between A and C?

10. Explain how to find the distance between points A and C.

Name:　　　　Connecting Algebra and Geometry　　　| 7.1

Set

Topic: Slope triangles and the distance formula.

Triangle ABC is a slope triangle for the line segment AB where BC is the rise and AC is the run. Notice that the length of segment BC has a corresponding length on the y-axis and the length of AC has a corresponding length on the x-axis. The slope formula is written as $m = \frac{y_2 - y_1}{x_2 - x_2}$ where m is the slope.
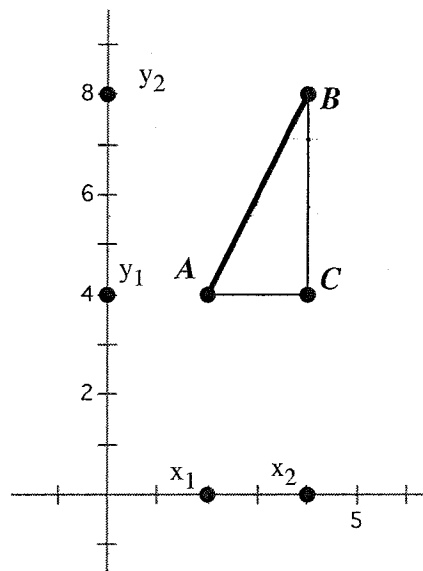
11a. What does the value $(y_2 - y_1)$ tell you?

　b. What does the value $(x_2 - x_1)$ tell you?

In the previous unit you found the length of a slanted line segment by drawing the slope triangle and performing the Pythagorean Theorem. In this exercise try to develop a more efficient method of finding the length of a line segment by using the meaning of $(y_2 - y_1)$ and $(x_2 - x_1)$ combined with the Pythagorean Theorem.
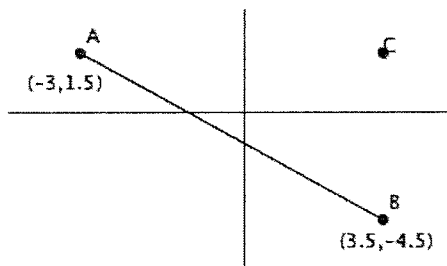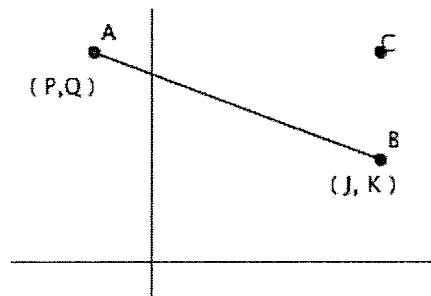
12.　Find AB.
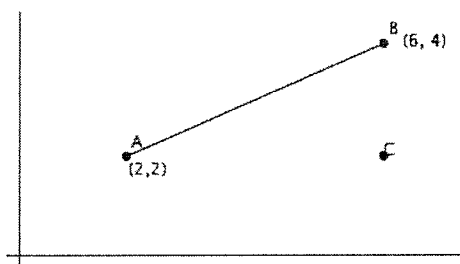
13.　Find AB.
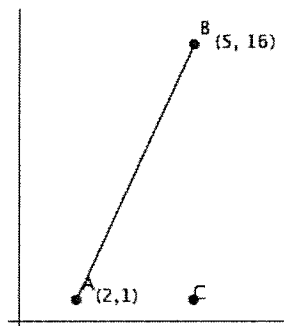
14. Find AB.

15. Find AB.

Name: Connecting Algebra and Geometry

Go   Topic: Rectangular coordinates

Use the given information to fill in the missing coordinates. Then find the length of the indicated
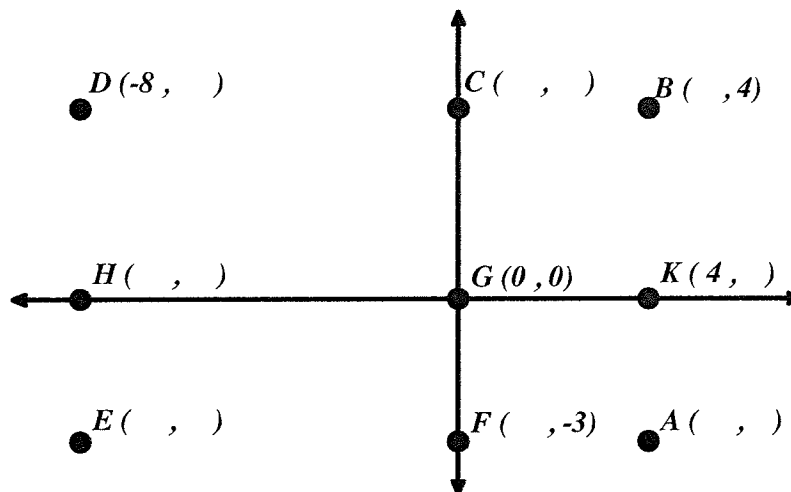line segment.

16a. Find HB

b. Find BD

H (,)   *K (,)*   *B (, 6)*

G (,)   *A (0 , 0)*   *C (,)*

F (-10,)   *E (, -4)*   *D (10 ,)*
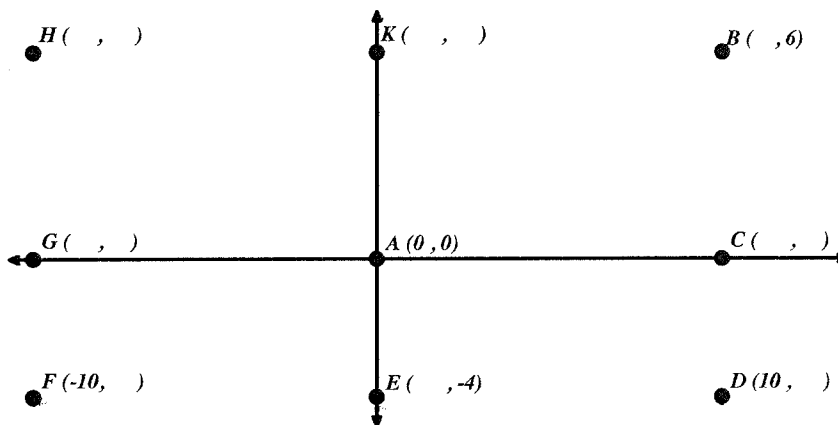
17a. Find DB

b. Find CF

D (-8 ,)   *C (,)*   *B (, 4)*

H (,)   *G (0 , 0)*   *K (4 ,)*

E (,)   *F (, -3)*   *A (,)*

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http://www.khanacademy.org/math/algebra/ck12-algebra-1/v/the-coordinate-plane

http://www.khanacademy.org/math/algebra/ck12-algebra-1/v/distance-formula