

Name

Key

Test Date

## Assessment 3 Review Guide

## STATION 1: A Quick Review of Finding Absolute Value

1. Greg states that he was scuba diving 550 feet below sea level, and he can write that as  $|-550|$ . Is he correct? Why or why not?

No.  $|-550| = 550$ , which would indicate that Greg is above sea level.

## STATION 2: Coordinate Planes

2. Plot and label the points on the coordinate grid.

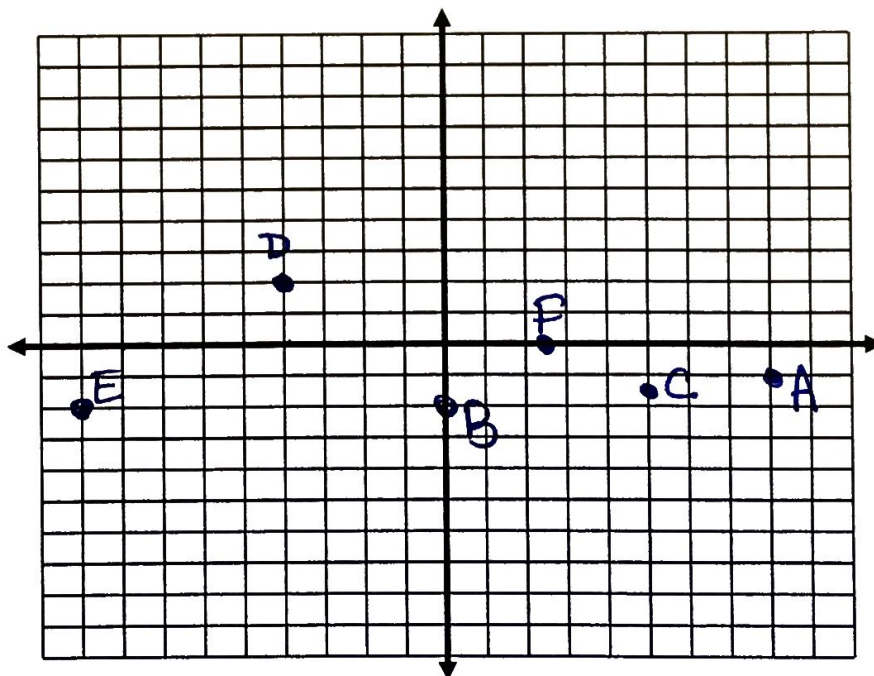
A. (8, -1)

B. (0, -2)

C. (5,  $-1\frac{1}{2}$ )

D. (-4, 2)

E. (-9, -2)

F. ( $2\frac{1}{2}$ , 0)

3. What is the distance from the point (2,  $\textcircled{6}$ ) to (2,  $\textcircled{9}$ )? Explain how you determined your answer.

15 Use the y-coordinates:  $6 + 9 = 15$

4. What is the distance from the point ( $\textcircled{5}$ , 4) to ( $\textcircled{-10}$ , 4)? Explain how you determined your answer.

15 Use the x-coordinates:  $5 + 10 = 15$

5. What is the distance from the point (3,  $\textcircled{13}$ ) to (3,  $\textcircled{-6}$ )? Explain how you determined your answer.

19 Use the y-coordinates:  $13 + 6 = 19$

Use the coordinate plane on the right for #6-9.

6. Label each of the four quadrants, the x-axis, and the y-axis on the coordinate plane.

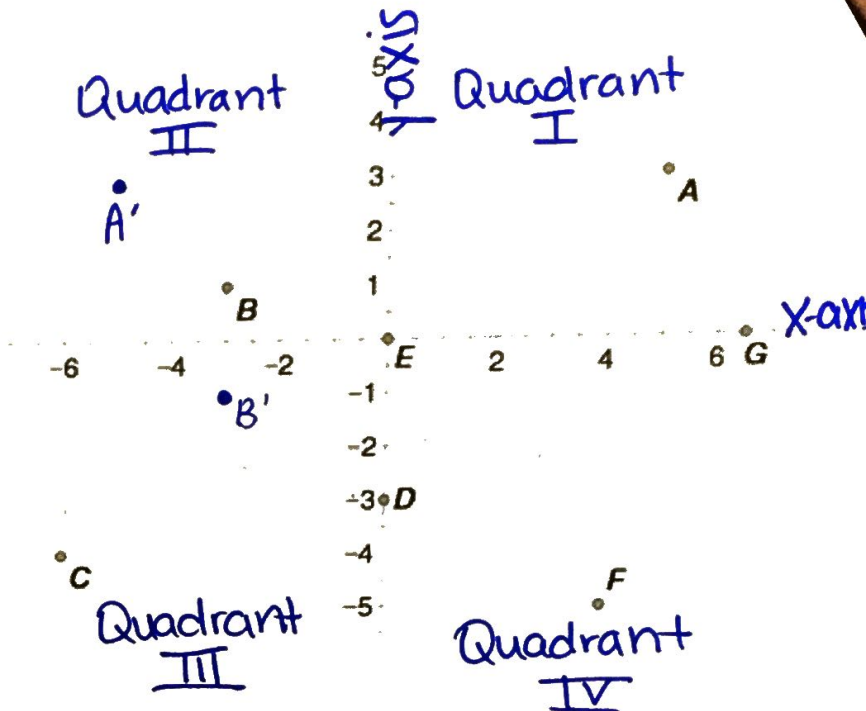


7. List the coordinates of:

Point A  $(5, 3)$       Point D  $(0, -3)$

Point B  $(-3, 1)$       Point E  $(0, 0)$

Point C  $(-6, -4)$       Point F  $(4, -5)$



8. Using Point A:

Draw a reflection over the y-axis. (see A')

What are the new coordinates of the reflection?

$(-5, 3)$

Explain how the *coordinates* changed as Point A was reflected.

A(5, 3) became A'(-5, 3), so the x-coordinate  
changed its sign but the y-coordinate  
stayed the same.

9. Using Point B:

Draw a reflection over the x-axis. (see B')

What are the new coordinates of the reflection?

$(-3, -1)$

Explain how the *coordinates* changed as Point B was reflected.

B(-3, 1) became B'(-3, -1), so the y-coordinate  
changed its sign but the x-coordinate  
stayed the same.

## STATION 3: Using Coordinate Planes in Real-World Problems

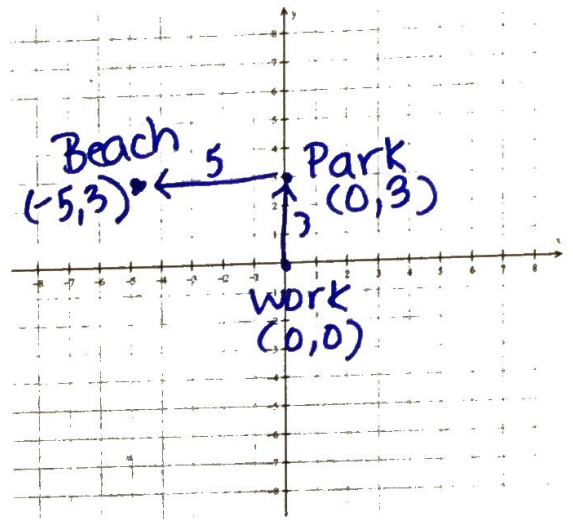
Use the grid on the right for #10.

10. Nicole left work, with coordinates  $(0, 0)$ , walked to the park at  $(0, 3)$ , then to the beach at  $(-5, 3)$ . If each unit represents 3 miles, what was the total distance Nicole walked? Justify your response using the grid on the right.

$$3 + 5 = 8$$

$$8 \text{ units} \\ \times 3 \text{ miles per unit}$$

$$\underline{24 \text{ miles}}$$



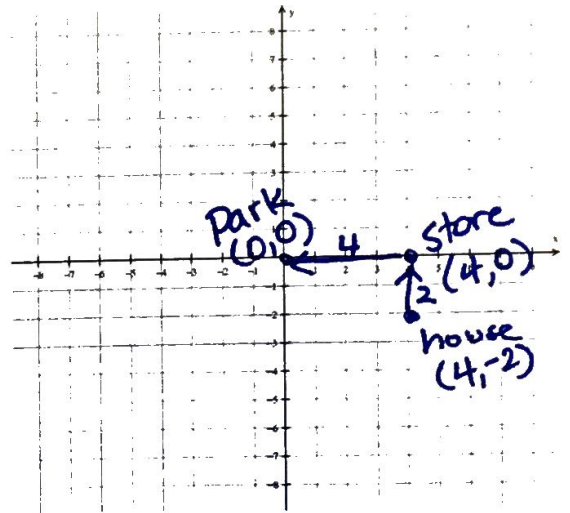
Use the grid on the right for #11.

11. Jana started at her friend's house located at  $(4, -2)$  and walked to the store located at  $(4, 0)$ . She then walked to the park at  $(0, 0)$ . If each unit represents  $\frac{1}{2}$  mile, what was the total distance that Jana walked? Justify your response using the grid on the right.

$$2 + 4 = 6$$

$$6 \text{ units} \\ \times \frac{1}{2} \text{ mile per unit}$$

$$\underline{3 \text{ miles}}$$



12. A town wants to move the location of three buildings.

a. Plot and label the locations for the new buildings on the coordinate plane.

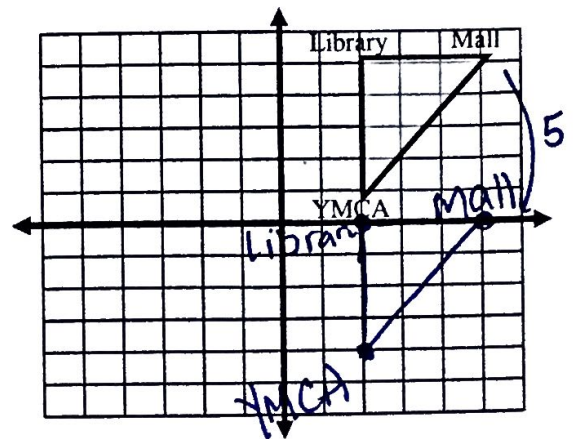
Library  $(2, 0)$

Mall  $(5, 0)$

YMCA  $(2, -4)$

b. Use your diagram to determine the distance that each of the buildings moved.

5 units



13. Three coordinates of a rectangle are <sup>A</sup> $(-4, 2)$ , <sup>B</sup> $(2, 2)$  and <sup>C</sup> $(-4, -3)$ .

a. Plot the first three coordinates.

b. What are the coordinates of the fourth vertex?

$(2, -3)$

c. What are the base and height of this rectangle?

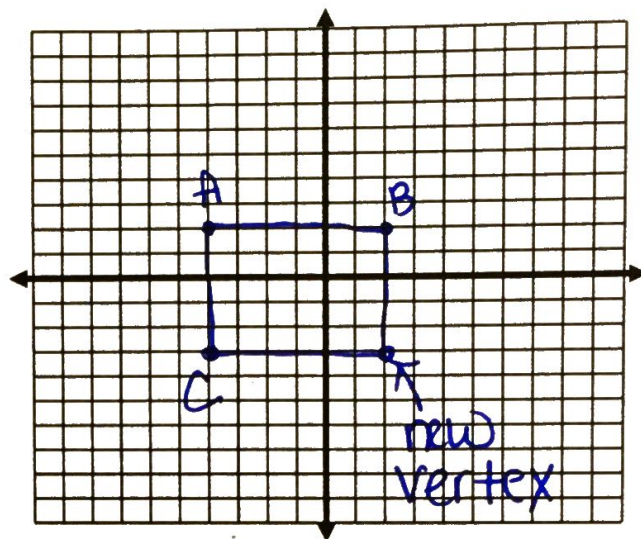
base = 6 height = 5

d. What is the perimeter this rectangle?

$$6 + 6 + 5 + 5 = 22 \text{ units}$$

e. What is the area of this rectangle?

$$6 \times 5 = 30 \text{ units}^2$$



14. Plot a rectangle on the grid that has a perimeter between 15 and 30 feet. (1 unit = 1 foot)

a. Label the vertices A, B, C, and D, then identify the coordinates of your rectangle.

A  $(-2, 4)$

B  $(4, 4)$

C  $(4, 0)$

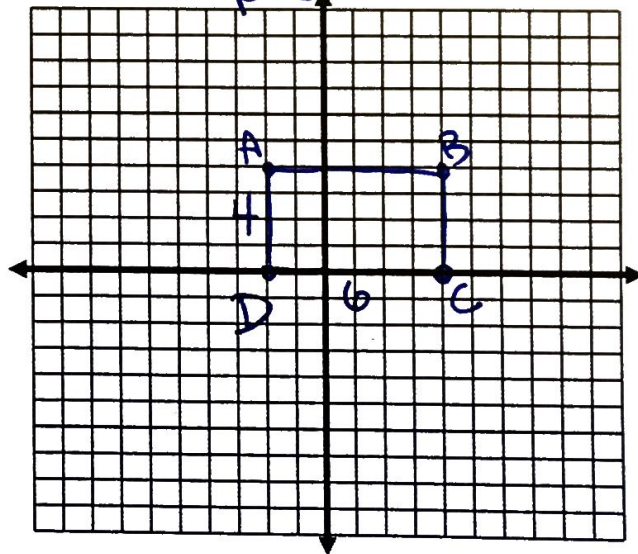
D  $(-2, 0)$

b. What are the base and height of the rectangle?

base = 6 height = 4

c. What is the area of this rectangle? 24

Example:



d. How do you know that the perimeter of your rectangle is between 15 and 30 feet? (Be sure to include the perimeter of your rectangle in your answer.)

$6 + 6 + 4 + 4 = 20$  units, which is  
between 15 and 30 feet since  
1 unit = 1 foot.