ALBERT

Name _____ Date _____

Distance on the Coordinate Plane Worksheet

Grade 6 · Common Core 6.NS.C.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.

Practice

Builds the skill step by step.

1. Find the distance between (2, 3) and (2, 9).

2. Find the distance between (1, 4) and (7, 4).

3. Find the distance between (−3, 2) and (5, 2).

4. Which two points are 5 units apart?

   A. (0, 2) and (0, 3)

   B. (2, 0) and (3, 0)

   C. (0, −2) and (0, 3)

   D. (−5, 0) and (5, 0)

5. Find the distance between (4, −6) and (4, −1).

6. Find the distance between (−7, 0) and (−2, 0).

7. Find the distance between (0, 0) and (0, −8).

8. What is the distance between (−4, 1) and (−4, −5)?

   A. 6 units

   B. 4 units

   C. 9 units

   D. 1 unit

9. Find the distance between (3, 3) and (3, −3).

10. Plot (−1, −2) and (6, −2). How far apart are they?

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On Level

Grade-level practice.

1. On a map grid, the school is at (−4, 3) and the library is at (5, 3). Each unit is 1 block. How many blocks apart are they?

2. A hiker starts at (2, −5) and walks straight north to (2, 6). Each unit is 1 mile. How far did she walk?

3. Point A is (−6, −2). Point B is 4 units to the right of A. What are B's coordinates?

   A. (−10, −2)

   B. (−6, 2)

   C. (−6, −6)

   D. (−2, −2)

4. Point P is (3, −4). Point Q is 7 units directly above P. What are Q's coordinates?

5. Find the distance between (−8, −3) and (−8, −12).

6. A rectangle has vertices (−2, 4), (5, 4), (5, −1) and (−2, −1). Find its perimeter.

7. Find the distance between $(-1.5, 2)$ and $(3.5, 2)$.

8. Which point is 6 units from $(0, -2)$?

   A. $(0, 6)$

   B. $(6, 6)$

   C. $(0, -6)$

   D. $(0, 4)$

9. A diver is at $(0, -14)$ on a grid where the x-axis is the water's surface. A boat is at $(0, 3)$. How far apart are they vertically?

10. Find the area of the rectangle with vertices $(-3, 2)$, $(4, 2)$, $(4, -2)$ and $(-3, -2)$.

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Challenge

Multi-step and word problems that stretch it.

1. Two points have the same y-coordinate and are 10 units apart. One point is (−3, 5). What are the two possible coordinates of the other point?

2. A square has vertices at (−2, −2) and (4, −2), and its other two vertices are above them. What are the other two vertices?

3. On a city grid, Mia walks from (−5, 2) to (−5, −6), then to (3, −6). Each unit is 1 block. How many blocks does she walk in all?

4. Point A is (a, 3) and Point B is (−2, 3). They are 7 units apart, and A is to the right of B. What is a?

   A. −9

   B. 9

   C. 5

   D. 4

5. A rectangle has vertices (−4, 5), (2, 5), (2, −3) and (−4, −3). What are its perimeter and area?

6. The temperature on a graph went from (0, −9) to (0, 13), measured in degrees. By how many degrees did it rise?

7. Raj says the distance from (−6, 1) to (2, 1) is 4 units because 6 − 2 = 4. What mistake did he make, and what is the correct distance?

8. A point is reflected across the x-axis. The original point is (4, −7). What is the distance between the point and its reflection?

9. Three corners of a rectangle are (−6, −1), (−6, 4) and (3, 4). What is the fourth corner, and what is the rectangle's area?

10. A delivery robot moves from (−3, −4) to (−3, 2) to (5, 2) to (5, −4) and back to (−3, −4). How many units does it travel in all?