ALBERT

Name _____ Date _____

Distance on the Coordinate Plane Worksheet

Grade 8 · Common Core 8.G.B.8

> Apply the Pythagorean Theorem to find the distance between two points in a coordinate system.

Practice

Builds the skill step by step.

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

2. What is the distance between (−2, 1) and (4, 9)?

3. What is the distance between (1, 2) and (6, 14)?

4. To find the distance between two points that are not on the same horizontal or vertical line, what is a good first step?

   A. Count the grid squares along a diagonal.

   B. Multiply the x-coordinates.

   C. Find the horizontal and vertical distances between the points.

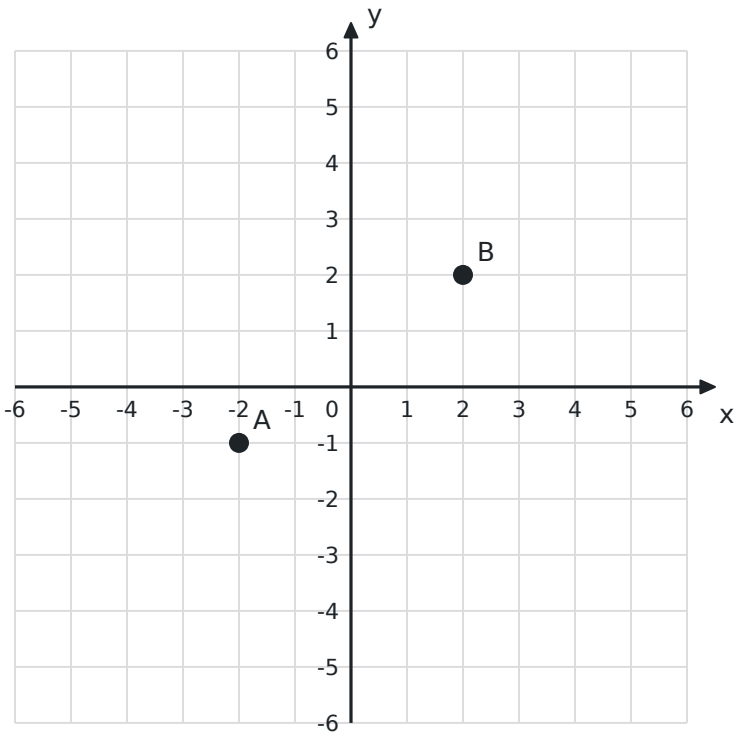
   D. Add the four coordinates.

5. What is the distance between (0, 0) and (3, 3), to the nearest tenth?

6. What is the distance between (−3, −2) and (3, 6)?

7. What is the distance between (2, −1) and (5, 3)?

8. What is the distance between points A and B?



9. What is the distance between (0, 0) and (5, 12)?

10. What is the distance between (1, 4) and (1, −3)?

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On Level

Grade-level practice.

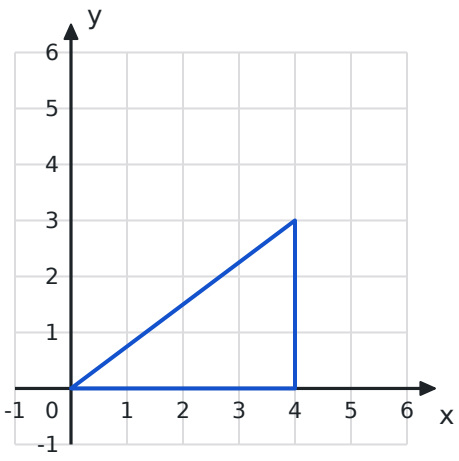
1. What is the distance between $(-4, 3)$ and $(2, -5)$?

2. What is the distance between $(-1, -1)$ and $(3, 2)$?

3. What is the distance between $(2, 5)$ and $(-3, -7)$?

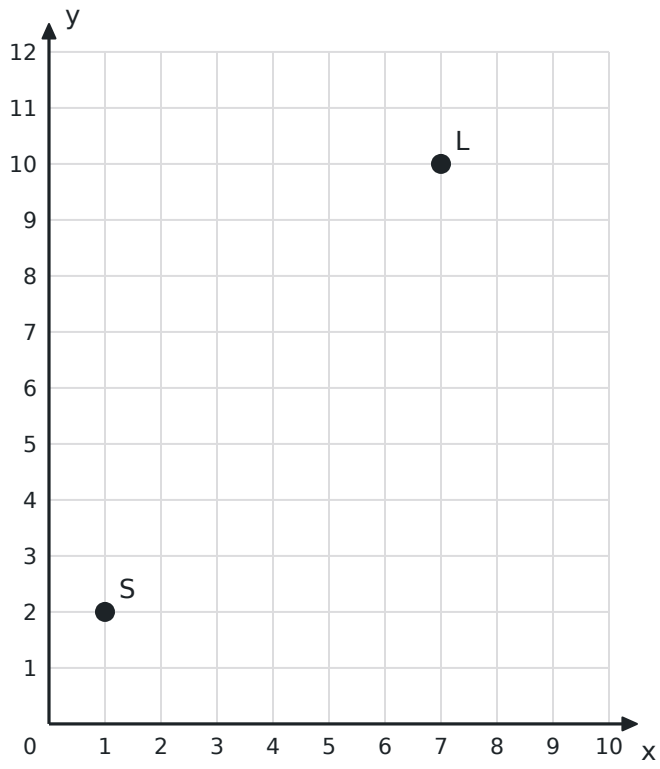
4. What is the distance between $(0, 0)$ and $(2, 5)$, to the nearest tenth?

5. A triangle has vertices (0, 0), (4, 0) and (4, 3). What is its perimeter?



6. What is the distance between (−6, 2) and (9, 10)?

7. On a town map, each grid unit is 1 mile. The school is at S and the library is at L. How far apart are they in a straight line?



8. Which pair of points is exactly 5 units apart?

   A. (0, 0) and (3, 5)

   B. (−1, 2) and (2, 6)

   C. (1, 1) and (6, 4)

   D. (2, 2) and (5, 5)

9. What is the distance between (−3, 4) and (4, −3), to the nearest tenth?

10. Explain how to find the distance between (1, 2) and (7, 10), and give the distance.

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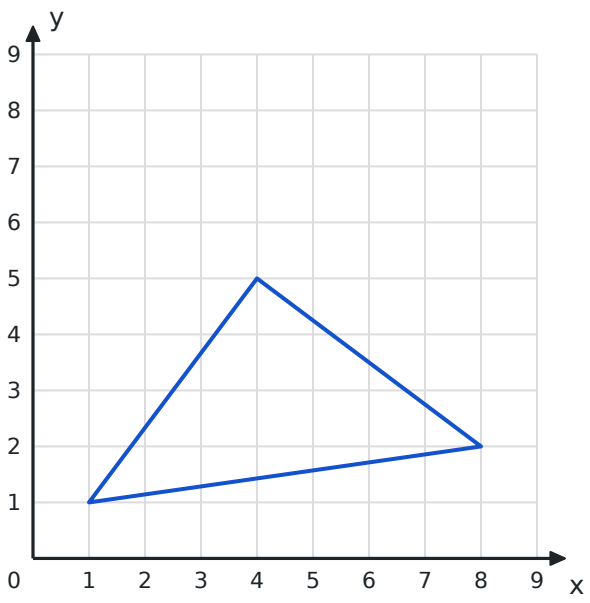
Challenge

Multi-step and word problems that stretch it.

1. A triangle has vertices (1, 1), (4, 5) and (8, 2). What is its perimeter, to the nearest tenth?



2. Is the triangle with vertices (1, 1), (4, 5) and (8, 2) a right triangle? Answer Yes or No.

3. The point (x, 5) is 10 units from (2, −1), and x is greater than 2. What is x?

4. Leo finds the distance between (2, 3) and (5, 7) by adding 3 + 4 = 7. What is his error?

   A. He added the legs; the distance is the hypotenuse, which is 5.

   B. He should have subtracted 4 − 3 = 1.

   C. There is no error.

   D. He should have multiplied 3 × 4 = 12.

5. A rectangle has vertices (−2, −1), (4, −1), (4, 7) and (−2, 7). How long is each diagonal?

6. A circle has its center at (2, 3) and a radius of 5. A point on the circle has an x-coordinate of 5 and a y-coordinate greater than 3. What is the y-coordinate?

7. What is the distance between (−1.5, 2) and (1.5, 6)?

8. A quadrilateral has vertices (0, 0), (3, 4), (8, 4) and (5, 0). What is its perimeter?

9. Which point is closer to the origin, (6, 7) or (9, 2)?

   A. It can't be told without a graph.

   B. (9, 2)

   C. (6, 7)

   D. They are the same distance from the origin.

10. On a grid where each unit is 1 kilometer, a drone flies straight from (−3, −4) to (5, 11). How far does it fly?