

Finding Distance Between Points on a Grid

Grade 8 math · Test · Standards: 8.G.B.8

Name: _____ Date: _____ Class: _____

This test covers distances and perimeters on the coordinate plane using the Pythagorean Theorem. It has 8 questions worth 20 points and should take about 45 minutes. A calculator with a square root key is allowed; show the squared legs for every slanted distance.

Standards: 8.G.B.8 · **Level:** Grade 8

Time: 45 minutes · 8 questions · Total: 20 points · Calculator: as allowed by your teacher

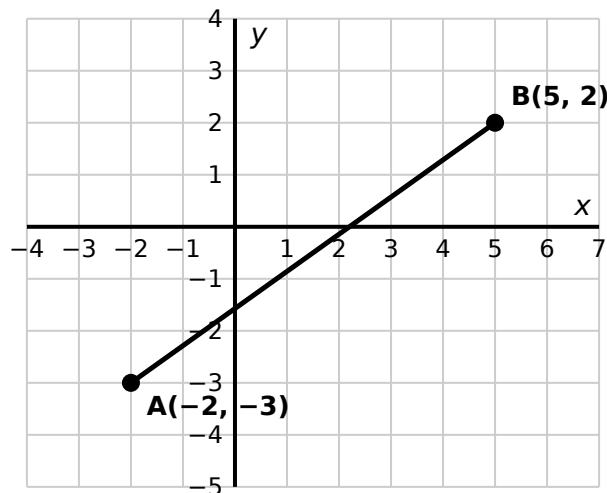
Question 1 Grid-line distances (2 points)

Find each distance.

- Between $(-3, 4)$ and $(-3, -9)$ (1 point)
- Between $(-8, -2)$ and $(6, -2)$ (1 point)

Question 2 Distance from a graph (3 points)

Use the graph.



Points A and B.

- Find the horizontal and vertical distances between A and B. (1 point)
- Write the exact distance AB. (1 point)
- Round AB to the nearest tenth. (1 point)

Question 3 Two distances (3 points)

Find each distance.

- Between $(1, -5)$ and $(-6, 3)$, to the nearest tenth (2 points)
- From the origin to $(-12, 35)$ (1 point)

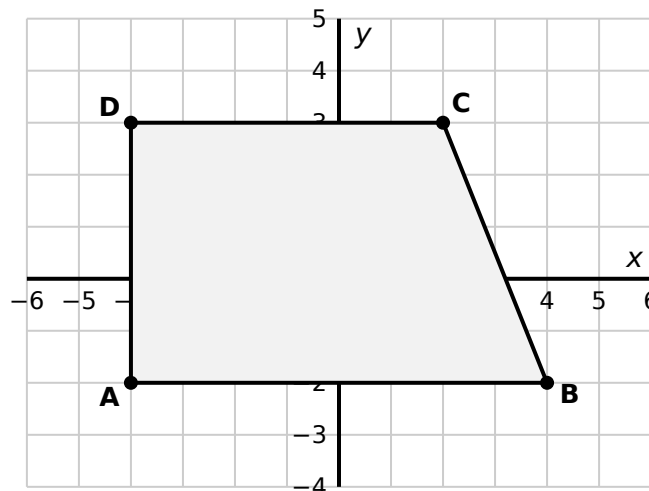
Question 4 Right triangle test (3 points)

Triangle ABC has vertices $A(1, 1)$, $B(7, 3)$, and $C(5, 9)$.

- Find AB^2 , BC^2 , and AC^2 . (2 points)
- Is $\triangle ABC$ a right triangle? Justify your answer. (1 point)

Question 5 Perimeter on a grid (3 points)

Find the perimeter of the quadrilateral in the graph.



Quadrilateral ABCD.

- Find the length of each side. (2 points)
- Find the perimeter to the nearest tenth. (1 point)

Question 6 Missing coordinate (2 points)

Point P is at $(-2, 3)$ and point Q is at $(6, y)$ with $y > 0$. The distance PQ is 17. Find y.

Question 7 Drone flight (2 points)

On a map, one unit is 0.2 mile. A drone flies straight from a store at $(-4, -1)$ to a house at $(8, 4)$. How many miles does it fly?

Question 8 Robot path (2 points)

A robot moves from $A(-3, 2)$ to $B(3, -4)$ and then to $C(3, 3)$. Find the total distance it travels, to

the nearest tenth.