

Grade 8 · Distance in the Coordinate Plane · Worksheet

Common Core 8.G.B.8 · mathovore.fr

Name: _____ Date: ____/____/____ Score: _____

These 24 problems practice Common Core standard 8.G.B.8: using the Pythagorean Theorem to find the distance between two points in a coordinate system. You will start with horizontal and vertical distances, move to slanted segments and the distance formula, find perimeters of figures on a grid, and finish with map and game problems.

Grade 8 Common Core: 8.G.B.8

Problem 1: Horizontal distance

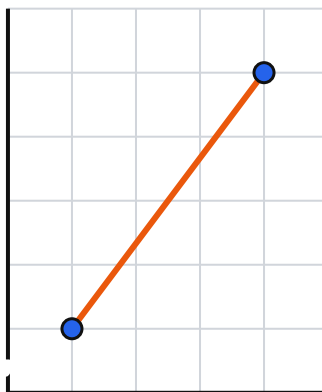
Find the distance between $(2,5)$ and $(9,5)$.

Problem 2: Vertical distance

Find the distance between $(-3,-4)$ and $(-3,6)$.

Problem 3: Draw the legs

Points $A(1,1)$ and $B(4,5)$ are plotted. Find the length of $\overline{AB}$.



Segment AB.

Problem 4: Distance from the origin

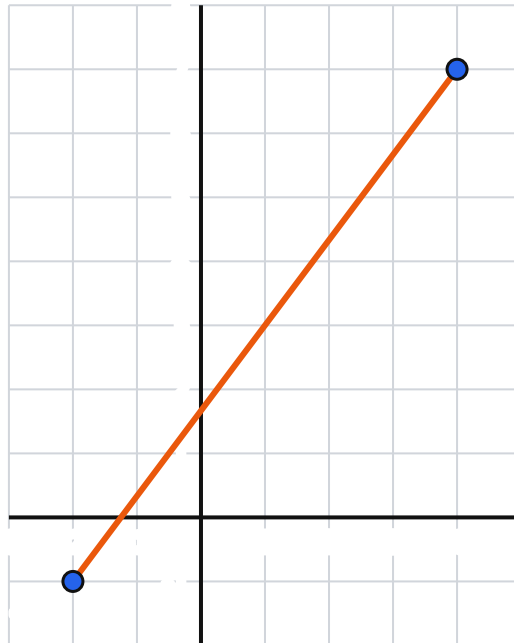
Find the distance from the origin $(0,0)$ to $(5,12)$.

Problem 5: Two points in Quadrant I

Find the distance between $(2,3)$ and $(10,9)$.

Problem 6: Across quadrants

Find the distance between $A(-2,-1)$ and $B(4,7)$.



Points in Quadrants III and I.

Problem 7: Moving down and right

Find the distance between $(-7,3)$ and $(5,-2)$.

Problem 8: Distance that is not whole

Find the distance between $(1,1)$ and $(5,6)$. Give the exact value and then round to the nearest tenth.

Problem 9: Larger legs

Find the distance between $(-3,4)$ and $(2,-6)$ to the nearest tenth.

Problem 10: Use the distance formula

Use the distance formula to find the distance between $(-8,-3)$ and $(7,5)$.

Problem 11: Find the error

Liam says the distance between $(1,2)$ and $(4,6)$ is $3+4=7$. Explain his mistake and find the correct distance.

Problem 12: Which point is closer?

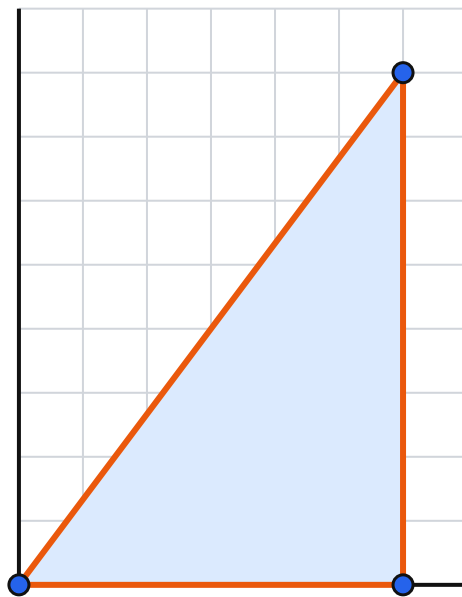
Which point is closer to the origin, $P(5,-6)$ or $Q(-7,3)$? Show the distances.

Problem 13: Missing coordinate

The point $A(1,2)$ is 10 units from $B(7,y)$, and y is greater than 2. Find y .

Problem 14: Perimeter of a grid triangle

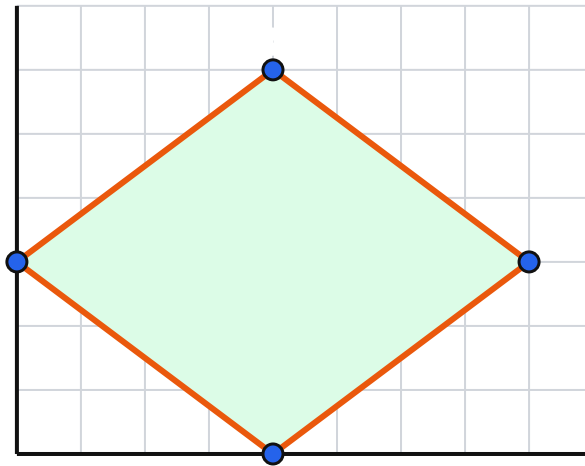
Find the perimeter of the triangle with vertices $(0,0)$, $(6,0)$ and $(6,8)$.



Triangle on a grid.

Problem 15: Perimeter of a rhombus

Find the perimeter of the quadrilateral with vertices $(0,3)$, $(4,0)$, $(8,3)$ and $(4,6)$.



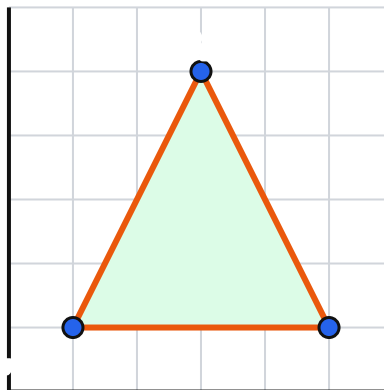
A quadrilateral on a grid.

Problem 16: Perimeter with a slanted side

Find the perimeter of the triangle with vertices $(-4,0)$, $(2,0)$ and $(2,3)$ to the nearest tenth.

Problem 17: Is the triangle isosceles?

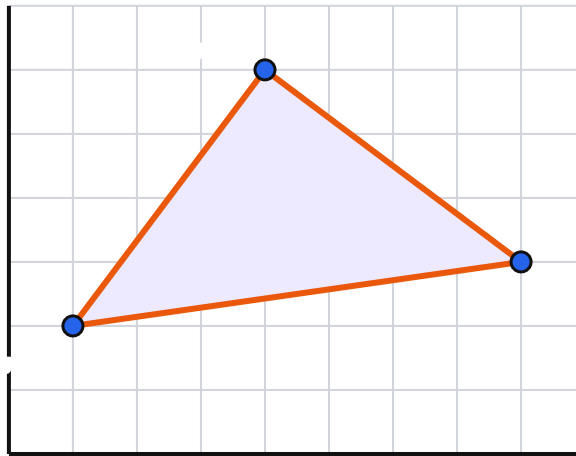
Triangle ABC has vertices $A(1,1)$, $B(5,1)$ and $C(3,5)$. Is it isosceles? Show the three side lengths.



Triangle ABC.

Problem 18: Is the triangle a right triangle?

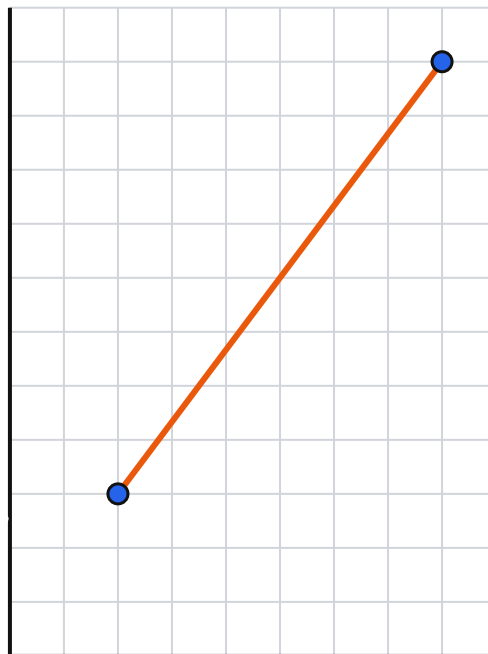
Triangle ABC has vertices $A(1,2)$, $B(4,6)$ and $C(8,3)$. Use the three side lengths to decide whether it is a right triangle.



Triangle ABC.

Problem 19: Library to park

On a town map, each grid unit is 1 mile. The library is at $(2,3)$ and the park is at $(8,11)$. How far apart are they in a straight line?



Town map.

Problem 20: Drone flight

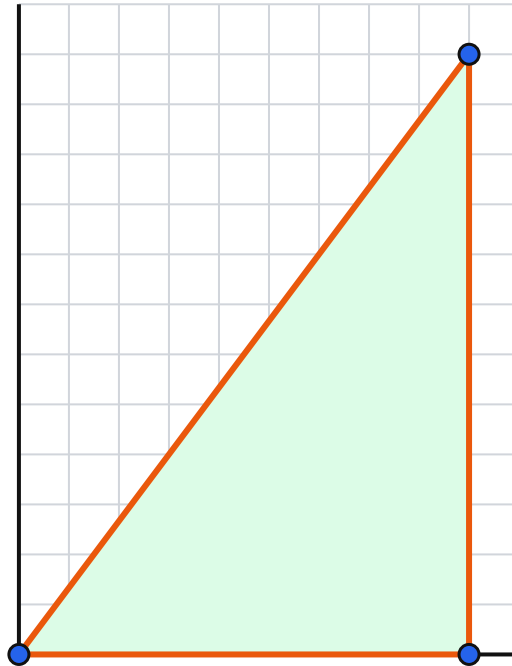
A drone flies in a straight line from $(-4,-3)$ to $(8,2)$ on a grid where each unit is 1 yard. How many yards does it fly?

Problem 21: Home to school

Maya's house is at $(-3,2)$ and her school is at $(6,-10)$ on a map where each unit is 0.1 mile. How many miles is the straight-line distance?

Problem 22: Fence for a garden

A triangular garden has corners at $(0,0)$, $(9,0)$ and $(9,12)$, where each unit is 1 foot. Fencing costs \\$3.50 per foot. How much does the fence around the whole garden cost?



Garden plan.

Problem 23: Jogging loop

Jamal jogs a triangular loop around a park with corners at $(0,0)$, $(5,0)$ and $(5,5)$. Each unit is one city block. How many blocks is the loop, to the nearest tenth?

Problem 24: Video game character

In a video game, a character at $(-6,-2)$ runs in a straight line to a flag at $(6,3)$. The character moves 2.6 units per second. How many seconds does the run take?