LESSON MAKER PRO

Coordinate Paths

Plot polygons and find side lengths.

GRADE 6 · MT.6.G.3

MT.6.G.3 "Draw polygons in the coordinate plane given coordinates for the vertices, find the length of a horizontal or vertical side, and apply these techniques to problems in context."

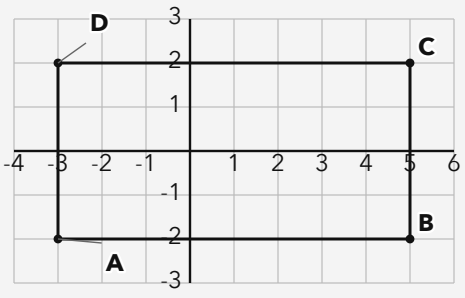
NAME _____ DATE _____

SIDE LENGTHS ON A GRID

Plot the vertices and connect them in order. For a horizontal side, subtract the x-coordinates. For a vertical side, subtract the y-coordinates. Use the positive difference as the length.

WORKED EXAMPLE

How long is side AB?



1. A and B have the same y-coordinate.
2. Subtract the x-coordinates: 5 - (-3) = 8.
3. AB is 8 units long.

Answer: 8 units

PRACTICE 4 problems

1 Plot A(0, 0), B(6, 0), and C(6, 4). Connect A-B-C-A. Find AB.

ANSWER _____

2 Plot P(-1, -6), Q(-1, 4), and R(0, 4). Connect P-Q-R-P. Find PQ.

ANSWER _____

3 Plot J(-6, -1), K(1, -1), and L(1, 0). Connect J-K-L-J. Find JK.

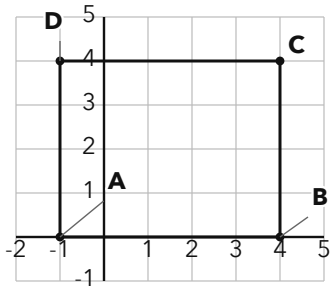
ANSWER _____

4 Plot E(-6, -6), F(4, -6), G(4, 1), and H(-6, 1). Connect them in order. Find EF and FG.

ANSWER _____

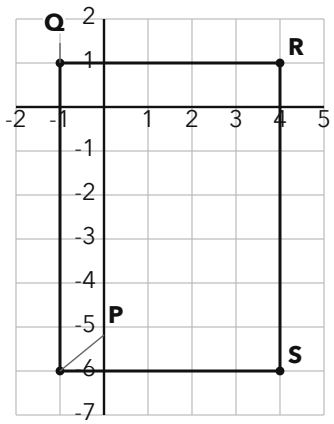
APPLY IT Show your work

1 This grid shows a mural design. Each grid unit is 1 foot. How long is edge CD?



ANSWER _____

2 This grid shows a stage in a game. Each grid unit is 1 step. How many steps is side PQ?



ANSWER _____

CHALLENGE One step up

Plot A(-6, -1), B(x, -1), C(x, 4), and D(-6, 4). Connect them in order to make a rectangle. AB is 7 units, and B is right of A. Find x and the perimeter. Explain your reasoning.

WORK SPACE AND ANSWER

ANSWER KEY

Coordinate Paths

GRADE 6 · MT.6.G.3

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Plot A(0, 0), B(6, 0), and C(6, 4). Connect A-B-C-A. Find AB.	**6 units**
2	Plot P(-1, -6), Q(-1, 4), and R(0, 4). Connect P-Q-R-P. Find PQ.	**10 units**
3	Plot J(-6, -1), K(1, -1), and L(1, 0). Connect J-K-L-J. Find JK.	**7 units**
4	Plot E(-6, -6), F(4, -6), G(4, 1), and H(-6, 1). Connect them in order. Find EF and FG.	**EF = 10 units; FG = 7 units**

PART 2 · APPLY IT

1. **5 feet** CD is horizontal. Its length is 4 - (-1) = 5 feet.
2. **7 steps** PQ is vertical. Its length is 1 - (-6) = 7 steps.

CHALLENGE

x = 1; perimeter = 24 units. B is 7 units right of -6, so x = 1. The height is 4 - (-1) = 5 units, and 2(7 + 5) = 24 units.

Accept any correct subtraction order that gives a positive side length. In the challenge, the explanation must show how x and the height were found.