LESSON MAKER PRO

Coordinate Connections

Use coordinates to measure from axes and follow straight paths.

GRADE 6 · 6.MG.3.e

6.MG.3.e "Relate the coordinates of a point to the distance from each axis and relate the coordinates of a single point to another point on the same horizontal or vertical line. Ordered pairs will be limited to coordinates expressed as integers."

NAME _____ DATE _____

AXIS DISTANCE RULES

The x-coordinate tells how many units a point is from the y-axis. The y-coordinate tells how many units a point is from the x-axis, and a negative sign shows direction, not distance. Points on a horizontal line have the same y-coordinate, and points on a vertical line have the same x-coordinate.

WORKED EXAMPLE

Point W is at (8, -7). How far is W from each axis?

1. The x-coordinate is 8.
2. W is 8 units from the y-axis.
3. The y-coordinate is -7, so its distance from the x-axis is 7 units.

Answer: 8 units from the y-axis and 7 units from the x-axis.

PRACTICE 6 problems

1 Point A is at (-4, 6). How far is A from the y-axis and from the x-axis?

ANSWER _____

_____

2 Point B is at (0, -9). How far is B from the y-axis and from the x-axis?

ANSWER _____

_____

3 Point C is at (5, -2). Point D is on the same horizontal line as C. The x-coordinate of D is -3. What is the y-coordinate of D?

ANSWER _____

4 Point E is at (-6, 1). Point F is on the same vertical line as E. The y-coordinate of F is -5. What is the x-coordinate of F?

ANSWER _____

5 Point P is at (2, 3). Point Q is on the same vertical line as P and is 9 units below P. What are the coordinates of Q?

ANSWER _____

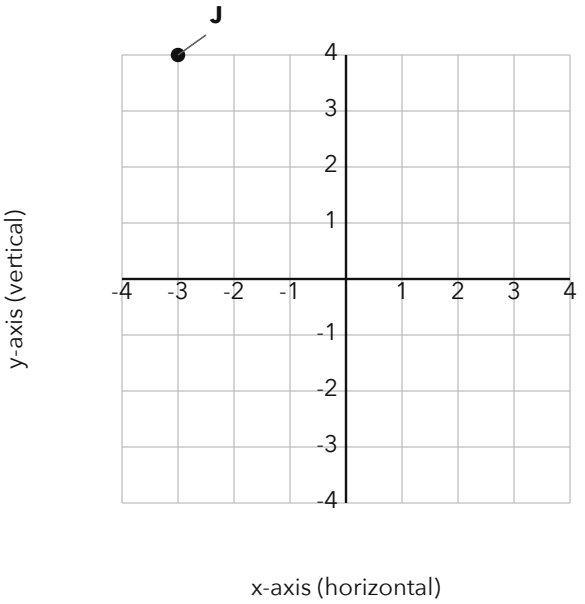
_____

6 Point R is at (-1, -10), and point S is at (4, -10). How far apart are R and S?

ANSWER _____

APPLY IT Show your work

1 In a game design club, Maya places a badge 6 units to the right of point J on the same horizontal line. What are the badge's coordinates? How far is the badge from each axis?



ANSWER _____

2 At a school esports tournament, a player marker is at (-5, 1). The marker moves 6 units to the right without moving up or down. What are its new coordinates? How far is the new location from each axis?

WORK SPACE

ANSWER _____

CHALLENGE One step up

Points A(-4, 2), B(-4, -5), and C(3, -5) are plotted on a coordinate plane. Explain how you can tell which two points form a vertical line and which two points form a horizontal line. Then state how far point C is from each axis.

WORK SPACE AND ANSWER

ANSWER KEY

Coordinate Connections

GRADE 6 · 6.MG.3.e

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Point A is at (-4, 6). How far is A from the y-axis and from the x-axis?	**4 units from the y-axis; 6 units from the x-axis.**
2	Point B is at (0, -9). How far is B from the y-axis and from the x-axis?	**0 units from the y-axis; 9 units from the x-axis.**
3	Point C is at (5, -2). Point D is on the same horizontal line as C. The x-coordinate of D is -3. What is the y-coordinate of D?	**-2**
4	Point E is at (-6, 1). Point F is on the same vertical line as E. The y-coordinate of F is -5. What is the x-coordinate of F?	**-6**
5	Point P is at (2, 3). Point Q is on the same vertical line as P and is 9 units below P. What are the coordinates of Q?	**(2, -6)**
6	Point R is at (-1, -10), and point S is at (4, -10). How far apart are R and S?	**5 units**

PART 2 · APPLY IT

1. **The badge is at (3, 4). It is 3 units from the y-axis and 4 units from the x-axis.** Move 6 units right from x = -3 to x = 3. Keep y = 4 because the badge stays on the same horizontal line.
2. **The new location is (1, 1). It is 1 unit from the y-axis and 1 unit from the x-axis.** Add 6 to the x-coordinate: -5 + 6 = 1. The y-coordinate stays 1 because the movement is horizontal.

CHALLENGE

A and B form a vertical line because they have the same x-coordinate, -4. B and C form a horizontal line because they have the same y-coordinate, -5. Point C is 3 units from the y-axis and 5 units from the x-axis.

Accept distance statements in either axis order when both distances are clearly matched to the correct axis. Accept explanations that correctly state that matching x-coordinates make a vertical line and matching y-coordinates make a horizontal line.