ALBERT

Name _____ Date _____

Coordinate Plane Worksheet

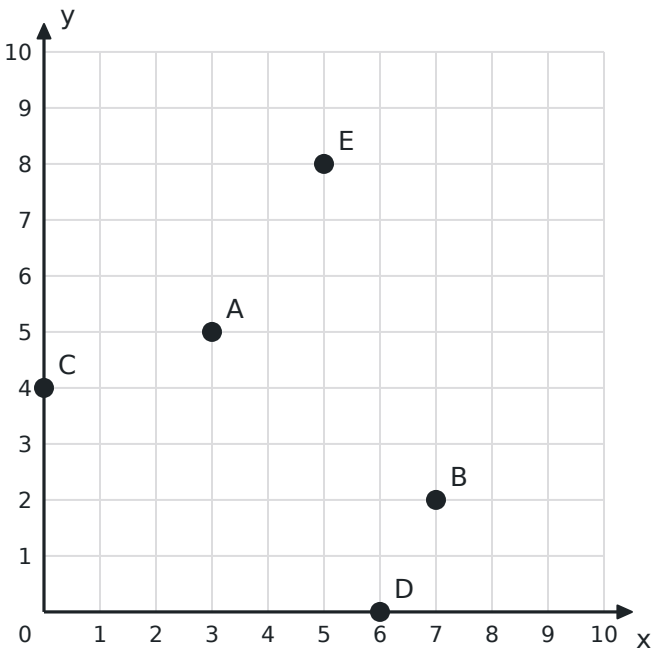
Grade 5 · Common Core 5.G.A.1

> Use a pair of perpendicular number lines, called axes, to define a coordinate system, with the intersection of the lines (the origin) arranged to coincide with the 0 on each line and a given point in the plane located by using an ordered pair of numbers, called its coordinates. Understand that the first number indicates how far to travel from the origin in the direction of one axis, and the second number indicates how far to travel in the direction of the second axis, with the convention that the names of the two axes and the coordinates correspond (e.g., x-axis and x-coordinate, y-axis and y-coordinate).

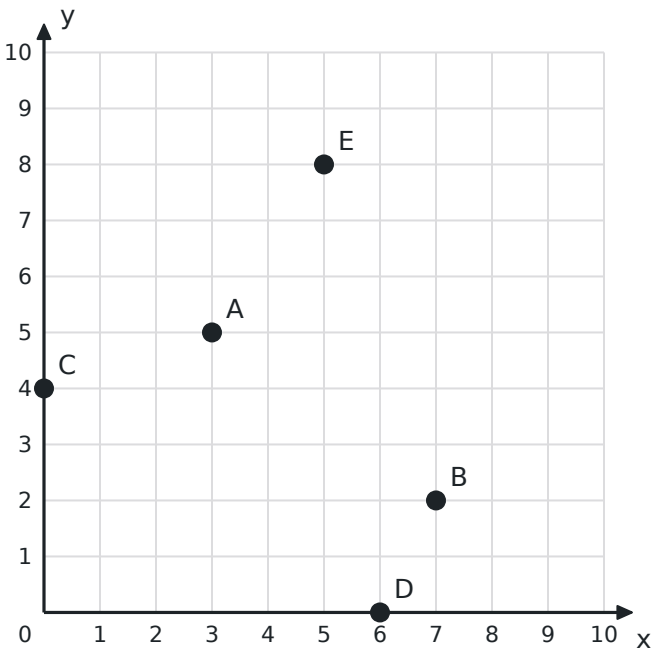
Practice

Builds the skill step by step.

1. What are the coordinates of point A?



2. What are the coordinates of point B?



3. In an ordered pair (x, y), what does the first number tell you?

   A. how far to move up

   B. how far to move along the x-axis from the origin

   C. the number of points

   D. the distance between two points

4. What are the coordinates of the origin?

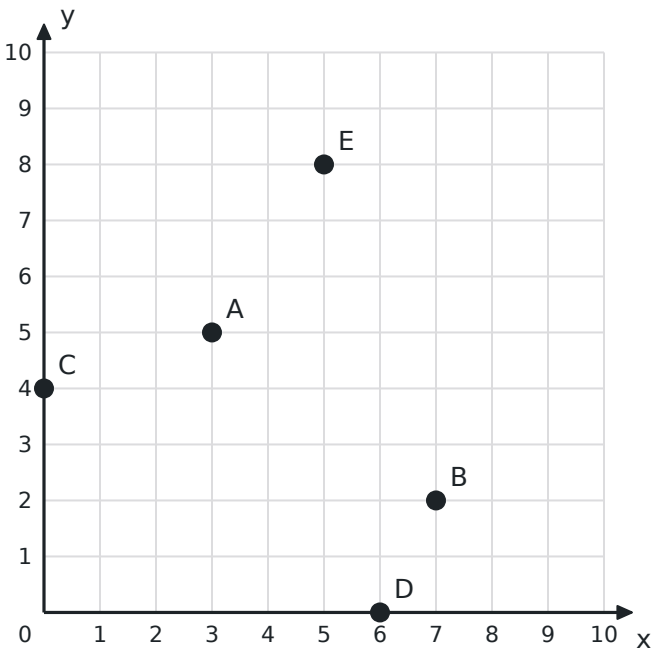
   A. (0, 0)

   B. (1, 1)

   C. (0, 1)

   D. (1, 0)

5. Which point is at (6, 0)?



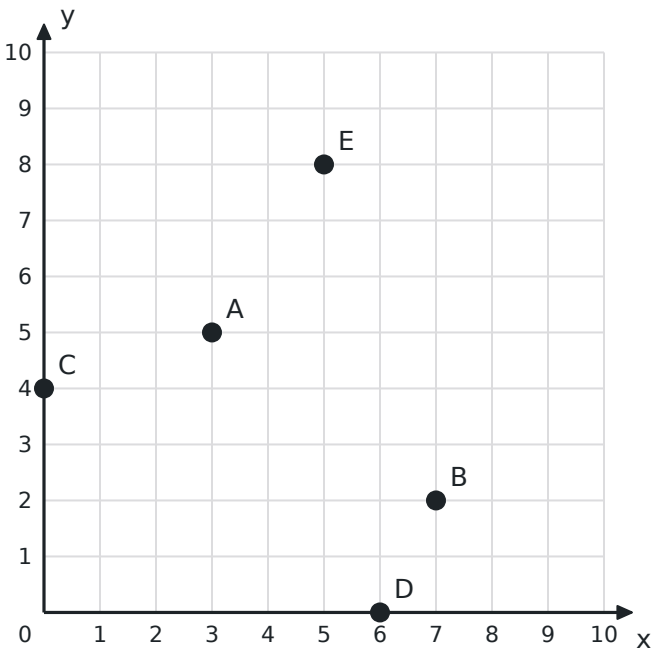
A. E

B. A

C. B

D. D

6. What are the coordinates of point C?



7. Which axis runs left to right?

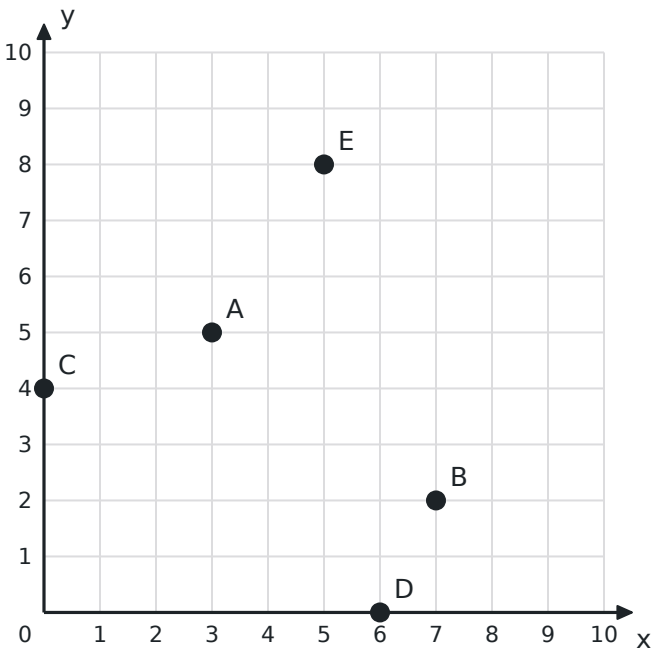
   A. the x-axis

   B. the y-axis

   C. both axes

   D. neither axis

8. Which point is at (5, 8)?



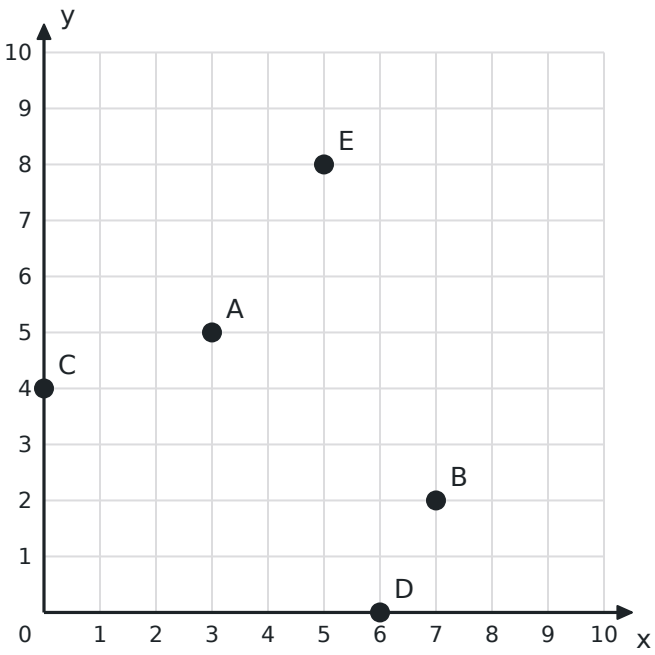
A. B

B. D

C. E

D. A

9. How many units to the right of the origin is point B?



10. How do you plot (4, 1) starting at the origin?

A. Move 5 units right.

B. Move 4 units right, then 1 unit up.

C. Move 1 unit right, then 4 units up.

D. Move 4 units up, then 1 unit right.

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On Level

Grade-level practice.

1. A point is 3 units right of the origin and 6 units up. What are its coordinates?

2. Start at (2, 3). Move 4 units right and 1 unit up. Where do you end?

3. How far apart are (2, 5) and (7, 5)?

4. How far apart are (4, 1) and (4, 9)?

5. Are (2, 5) and (5, 2) the same point?

   A. No: (2, 5) is 2 right and 5 up; (5, 2) is 5 right and 2 up.

   B. Yes: they use the same numbers.

   C. Yes: order doesn't matter.

   D. You can't tell.

6. On which axis does (0, 7) lie?

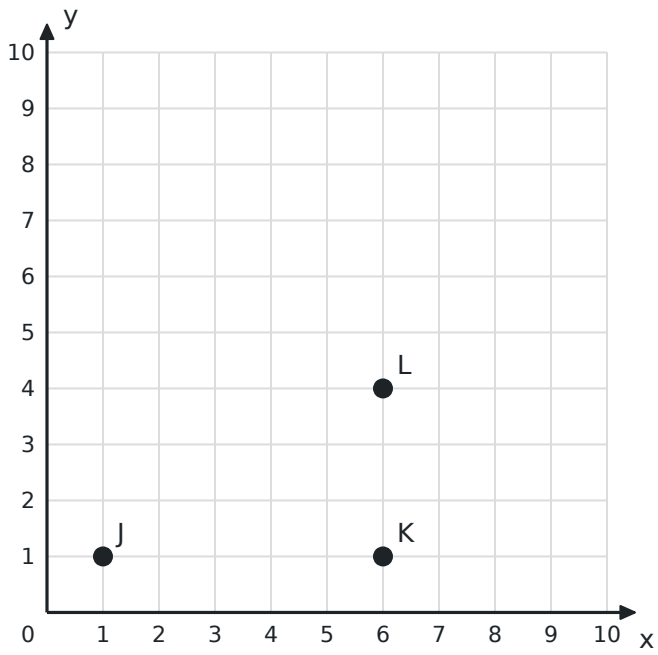
   A. the y-axis

   B. the x-axis

   C. neither axis

   D. both axes

7. Rectangle JKLM has J(1, 1), K(6, 1) and L(6, 4). What are the coordinates of M?



8. Explain how the points (3, 1) and (1, 3) are different.

9. A point is on the x-axis, 6 units to the right of the origin. What are its coordinates?

10. What point is halfway between (2, 4) and (8, 4)?

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Challenge

Multi-step and word problems that stretch it.

1. A square has corners at (2, 2), (5, 2) and (5, 5). What is the fourth corner?

2. That square has corners (2, 2), (5, 2), (5, 5) and (2, 5). What is its perimeter?

3. Start at (1, 1). Move up 3, right 4 and down 2. Where do you end?

4. A rectangle has corners (1, 2), (7, 2), (7, 6) and (1, 6). What is its area?

5. Which point is farthest from the x-axis?

   A. (5, 5)

   B. (8, 0)

   C. (9, 2)

   D. (2, 9)

6. How many points with whole-number coordinates, including points on the axes, have $x + y = 4$?

7. A rectangle has one corner at the origin. It is 6 units wide and 3 units tall, in the first quadrant. What are the coordinates of the opposite corner?

8. Kai says (4, 0) is on the y-axis. What is his mistake?

   A. (4, 0) is on the x-axis, because its y-coordinate is 0.

   B. He is right.

   C. (4, 0) is the origin.

   D. (4, 0) is not on any axis.

9. Mia walks from (3, 2) straight up to (3, 9), then straight right to (8, 9). How many units does she walk?

10. Explain what the origin is and why it matters on the coordinate plane.