



✓ **Congratulations! You passed!**  
TO PASS 75% or higher

Keep Learning

GRADE  
80%

## Practice quiz on the Cartesian Plane

TOTAL POINTS 5

1. Which of the following points in the Cartesian Plane is on the  $y$ -axis?

1 / 1 point

- ☐  $(5, 0)$
- ☒  $(0, -5)$
- ☐  $(1, 1)$
- ☐  $(-5, 0)$

✓ **Correct**

The  $y$ -axis is defined to be all points in the Cartesian plane with zero as  $x$ -coordinate. The point  $(0, -5)$  meets that requirement.

2. Find the distance between the points  $A = (2, 2)$  and  $C = (3, 3)$ :

1 / 1 point

- ☒  $\sqrt{2}$
- ☐ 2
- ☐ 0
- ☐ 1

✓ **Correct**

Recall that the distance between points  $(a, b)$  and  $(c, d)$  is  $\sqrt{(c-a)^2 + (d-b)^2}$ .

In this case  $(a, b) = (2, 2)$  and  $(c, d) = (3, 3)$ , so the distance is  $\sqrt{(3-2)^2 + (3-2)^2} = \sqrt{2}$ .

3. Find the point-slope form of the equation of the line that goes between  $A = (1, 1)$  and  $B = (5, 3)$ :

0 / 1 point

- ☐  $y - 1 = \frac{1}{2}(x - 1)$
- ☐  $y - 1 = \frac{1}{2}(x - 5)$
- ☒  $y = \frac{1}{2}x$
- ☐  $y - 3 = \frac{1}{2}(x - 1)$

✗ **Incorrect**

The point-slope form for the equation of a line with slope  $m$  that goes through the point  $(x_0, y_0)$  is  $y - y_0 = m(x - x_0)$

In this case, the slope  $m = \frac{3-1}{5-1} = \frac{1}{2}$

We can choose either  $A$  or  $B$  for the point on the line, but in neither case do we get this chosen answer.

4. Which of the following points is on the line with equation:

1 / 1 point

$y - 1 = 2(x - 2)?$

- ☐ (3, 2)
- ☐ (0, 0)
- ☒ (2, 1)
- ☐ (2, 3)

✓ **Correct**

If we plug in 1 for  $y$  and 2 for  $x$  in the equation of the line, we make a true statement,  $0 = 0$ , so this point lies on the line.

5. Suppose that a line  $\ell$  has slope 2 and goes through the point  $(-1, 0)$ . What is the  $y$ -intercept of  $\ell$ ?

1 / 1 point

- ☒ 2
- ☐ -1
- ☐ 0
- ☐ 1

✓ **Correct**

Recall that the  $y$ -intercept of  $\ell$  is the  $y$ -coordinate of where  $\ell$  hits the  $y$ -axis.

Since  $(-1, 0) \in \ell$ , the point on  $\ell$  with  $x = 0$  is obtained by running one unit from  $(-1, 0)$  while rising two units.

This gives  $y = 2$  as the  $y$ -intercept.