



Graded quiz on Cartesian Plane and Types of Function



13/13 points earned (100%)

Quiz passed!

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1 / 1
points

1.

Which of the following points in the Cartesian Plane have positive x -coordinate and negative y -coordinate?

- ☐ (0, 0)
- ☐ (5, 7)
- ☒ (7, -1)



Correct

The x -coordinate, 7, is positive, and the y -coordinate, -1 , is negative.

☐ $(-4, 5)$



1 / 1
points

2.

Which of the following points is in the first quadrant of the Cartesian Plane?

☐ $(-5, 1)$

☐ $(5, -1)$

☐ $(-4, -7)$

☒ $(7, 11)$

Correct

The first quadrant is defined to be all points in the Cartesian plane whose coordinates are both positive.



1 / 1
points

3.

Let A, B, C, D be points in the Cartesian Plane, and let the set $S = \{B, C, D\}$

Suppose that the distances from A to B, C, D are 5.3, 2.1, and 11.75, respectively.

Which of the following points is the nearest neighbor to the point A in the set S ?

☐ D

☐ A

☒ C

Correct

The distance from A to C is 2.1 and that is smaller than the distance from A to any other element of S .

☐ B



1 / 1
points

4.

Find the distance between the points $A = (2, 2)$ and $B = (-1, -2)$.

☐ -25

☒ 5

Correct

Recall that the distance between points (a, b) and (c, d) is

$$\sqrt{(c - a)^2 + (d - b)^2}$$

In this case we have:

$$\sqrt{(-1-2)^2 + (-2-2)^2} = \sqrt{(-3)^2 + (-4)^2} = \sqrt{25} = 5$$

- ☐ 1
- ☐ 25
-



1 / 1
points

5.

Find the slope of the line segment between the points $A = (0, 1)$ and $B = (1, 0)$.

- ☒ -1



Correct

The slope of this line segment is $\frac{0-1}{1-0} = -1$

- ☐ 1
- ☐ $\sqrt{2}$
- ☐ 0
-



1 / 1
points

6.

Find the point-slope form of the equation of the line with slope -2 that goes through the point $(5, 4)$.

- ☐ $y - 5 = -2(x - 4)$
- ☒ $y - 4 = -2(x - 5)$



Correct

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 $m = -2$ is given and the point $(5, 4)$ on the line is given.

☐ $y - 4 = 2(x - 5)$

☐ $(5, 4)$



1 / 1
points

7.

Which of the following equations is for a line with the same slope as $y = -3x + 2$?

☐ $y = 5x$

☐ $y = 8x - 3$

☒ $y = -3x - 8$

Correct

The slope-intercept formula for a line is $y = mx + b$, where m is the slope and b is the y -coordinate of the point where the line hits the y -axis.

This line has slope $m = -3$ which is the same slope as the given line.

☐ $y = 5x + 2$

1 / 1
points

8.

Which of the following equations is for a line with the same y -intercept as $y = -3x + 2$?

☐ $y = -3x - 8$

☒ $y = 5x + 2$

**Correct**

The the slope-intercept formula for a line is $y = mx + b$, where m is the slope and b is the y -coordinate of the point where the line hits the y -axis. This line has a y -intercept of 2 which is the same as the given line.

☐ $y = 8x - 3$

☐ $y = 5x$

1 / 1
points

9.

How many lines contain both the point $A = (1, 1)$ and the point $B = (2, 2)$?

☐ None

☐ 2

☐ Infinity many

☒ 1

**Correct**

The line with equation $y = x$ is the one and only line that meets the stated requirements.

1 / 1
points

10.

Suppose that we have two sets, $A = \{a, b\}$ and $Z = \{x, y\}$. How many different functions $F : A \rightarrow Z$ are possible?

☐ There are none

☒ 4

Correct

A function $F : A \rightarrow Z$ is a rule which assigns an element $F(a) \in Z$ to each element $a \in A$.

There are two elements in A ; namely, a and b . For each of these elements, there are two assignment choices we could make: x and y .

Here are the four possible functions:

$$F(a) = x, F(b) = y, \text{ OR}$$

$$F(a) = y, F(b) = x, \text{ OR}$$

$$F(a) = x, F(b) = x, \text{ OR}$$

$$F(a) = y, F(b) = y.$$

☐ There are infinitely many

☐ 1

1 / 1

1 / 1
points

11.

How many graphs contain both the point $A = (0, 0)$ and the point $B = (1, 1)$



Infinitely many

**Correct**

The graphs of

$f(x) = x, g(x) = x^2, h(x) = x^3, s(x) = x^4, \dots$ all contain both A and B



None



1



2

1 / 1
points

12.

Suppose that $g : \mathbb{R} \rightarrow \mathbb{R}$ is a continuous function whose graph intersects the x -axis more than once. Which of the following statements is true?

 g is neither strictly increasing nor strictly decreasing.**Correct**

The function g fails the horizontal line test, so it can neither be strictly increasing nor strictly decreasing.

 g is strictly decreasing.

All of the above.

 g is strictly increasing.