### Graded quiz on Cartesian Plane and Types of Function Quiz, 13 questions

13/13 points (100%)

### Congratulations! You passed!

Next Item



1/1 points

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

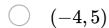


(7,-1)



#### Correct

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



$$\bigcirc \quad (5,7)$$

$$\bigcirc \quad (0,0)$$



1/1 points

2.

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

$$\bigcirc \quad (-4,-7)$$

$$(-5,1)$$

$$\bigcirc \quad (7,11)$$

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

 $\bigcirc \quad (5,-1)$ 



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?

- Ов
- 0



#### 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.

A



1/1 points

4

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

 $\bigcirc$  -25

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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:

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

- $\bigcirc$  25
- $\bigcirc$  1



1/1 points

5.

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



-1

#### Correct

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

- $\bigcirc$  1
- $\sqrt{2}$
- $\bigcirc$  0



1/1 points

6.

Find the point-slope form of the equation of the line with slope -2 Graded quiz on Cartesian Plane and Types of Function that goes through the point (5,4).

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 $\bigcirc \quad (5,4)$ 

$$\bigcirc \quad y-5=-2(x-4)$$

$$\bigcirc \quad y-4=2(x-5)$$

$$\bigcirc \quad y-4=-2(x-5)$$

#### 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  $(\mathbf{5},\mathbf{4})$  on the line is given.



1/1 points

7

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

$$y=8x-3$$

$$y = -3x - 8$$

#### 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.

$$y = 5x + 2$$

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8.

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

$$y = 5x$$

$$y = -3x - 8$$

$$y = 8x - 3$$

$$\bigcirc \quad y = 5x + 2$$

#### 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.



1/1 points

9

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



1

#### Correct

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

- Infinity many
- $\bigcirc$  2

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1/1 points

10.

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

- There are none
- There are infinitely many
- $\bigcirc$  1
- O 4

#### Correct

A function  $F:A \to Z$  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:

$$F(a)=x, F(b)=y$$
, OR

$$F(a)=y, F(b)=x$$
, OR

$$F(a)=x, F(b)=x$$
, OR

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



1/1 points

Graded quiz on Cartesian Plane and Types of Function the point 3/13 points (100%)  $^{\rm Quiz,~13~questions}$  B=(1,1)

- $\bigcirc$  2
- ( ) None
- O Infinitely many

#### Correct

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

 $\bigcirc$  1



1/1 points

12.

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

- All of the above.
- $\bigcirc$  g is strictly increasing.
- $\bigcirc$  *g* is strictly decreasing.
- $\bigcirc \hspace{0.5cm} g$  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.

**/** 

points