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Practice quiz on the Cartesian Plane

PUNTOS TOTALES DE 5

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

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

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 puntos**

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

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 $B = (5, 3)$:** **1 / 1 puntos**

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

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 $m = \frac{3 - 1}{5 - 1} = \frac{1}{2}$

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 puntos**

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

- $(3, 2)$
- $(2, 3)$
- $(0, 0)$
- (selected) $(2, 1)$

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 ℓ has slope 2 and goes through the point $(-1, 0)$. What is the y-intercept of ℓ?

- -1
- 1
- 2 (selected)
- 0

Correct

Recall that the y-intercept of ℓ is the y-coordinate of where ℓ hits the y-axis.

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

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