

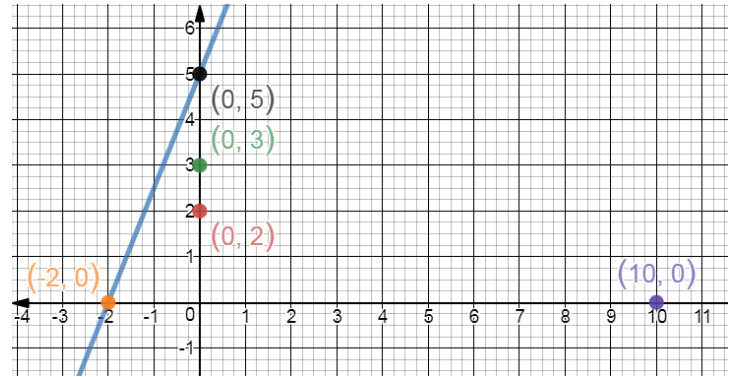
This book has permission to use the "N&K method of COLORS".

Examples: needs work; Coordinate Geometry, Straight Lines

Question)needs checking / work; Question: 2nd Method. Which of the following points, is on the line

$$2y = 5x + 10;$$

- A) (10, 0)
- B) (0, 2)
- C) (0, 3)
- D) (2, 10)



For speed, while solving something similar, only THINK the words in blue; WRITE only the words in other COLORS.

Given: 1) $2y = 5x + 3$

Solve: Which of the choices given above is on the line?

Road Map of Solution:

First Step: Sketch the x and y axes in your work area.

Second Step: Convert the equation to form; $y = mx + b$

Third Step: Based on the above equation, we know that b is the intercept on the y-axis.

Fourth Step:

First Step: Sketch the x and y axes in your work area. Done

Second Step: Convert the given equation to form;

$$y = mx + b \dots\dots\dots \text{equation \#1}$$

The given equation is

$$2y = 5x + 10 \dots\dots\dots \text{equation \#2}$$

To convert eq #1 to the form $y = mx + b$, multiply both sides of the above equation with

$$\left(\frac{1}{2}\right) \times \{ 2y \} = \{ 5x + 10 \} \times \left(\frac{1}{2}\right)$$

$$\left(\frac{1}{2}\right) \times 2y = \frac{5}{2}x + \frac{10}{2}$$

$$\left(\frac{1}{1}\right) \times 1y = \frac{5}{2}x + \frac{5}{1}$$

$$(1) \times 1y = \frac{5}{2}x + 5$$

$$y = \frac{5}{2}x + 5 \dots\dots\dots \text{equation \#2b}$$

Comparing equation #s 1 & 2b, we get,

$$\text{Slope} = \frac{\text{rise}}{\text{run}} = m = \frac{5}{2}$$

Intercept = $b =$ "y" value of the point, where the line defined by equation #1 crosses the y-axis.

..... Since, the line defined by equation #1 crosses the y-axis at (0,5)

Intercept = $b = 5$