

2.5 Standard Form

Problem 2 Graphing a Line Using Intercepts

What is the graph of $x - 2y = -2$?

Step 1: Find the x-intercept

$y=0$, plug into equation and solve for x

Step 2: Find the y-intercept

$x=0$, plug into equation solve for y

Step 3:

graph answers

$$x - 2y = -2$$

X-intercept

$$x - 2(0) = -2$$

$$x - 0 = -2$$

$$\boxed{x = -2}$$

$(-2, 0)$

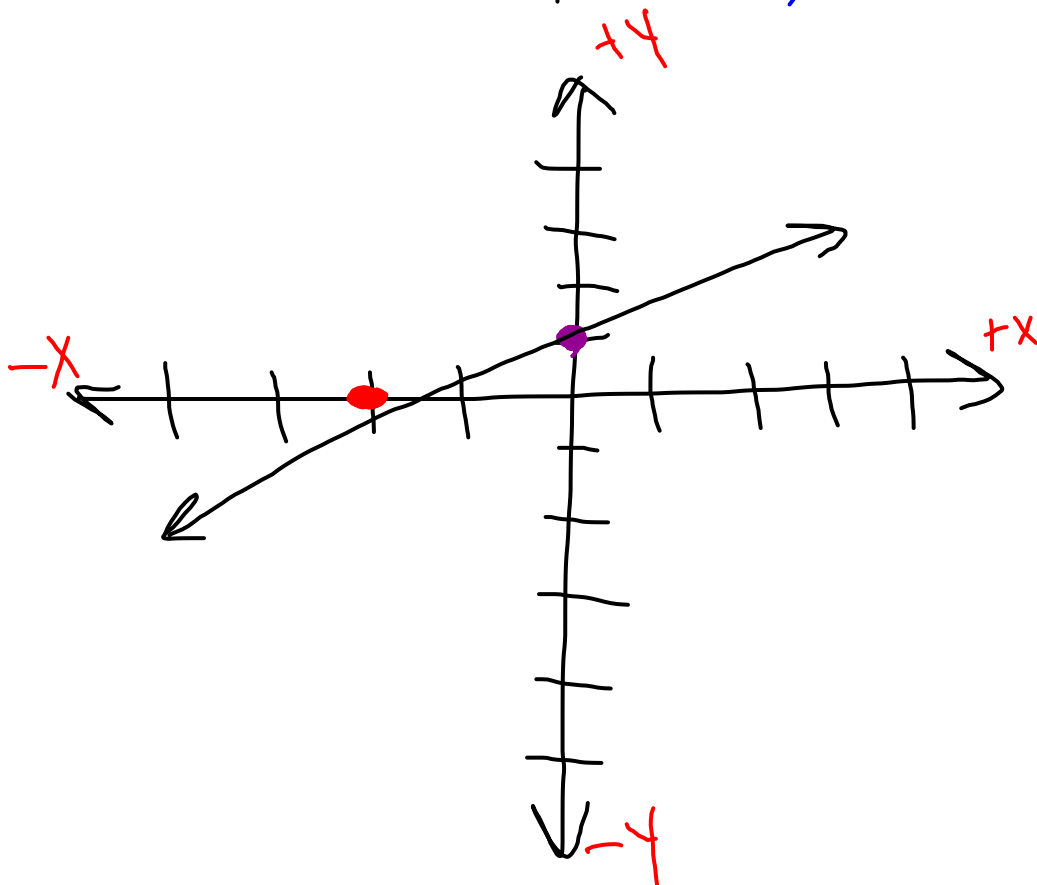
Y-intercept

$$(0) - 2y = -2$$

$$\frac{-2y}{-2} = \frac{-2}{-2}$$

$$y = 1$$

$(0, 1)$



2. What is the graph of $2x + 5y = 20$?

$$2x + 5y = 20$$

$$2(0) + 5y = 20$$

$$\frac{20}{5} = 4 \quad (0, 4)$$

$$(0, 4)$$

$$x = 0$$

$$y = 4$$

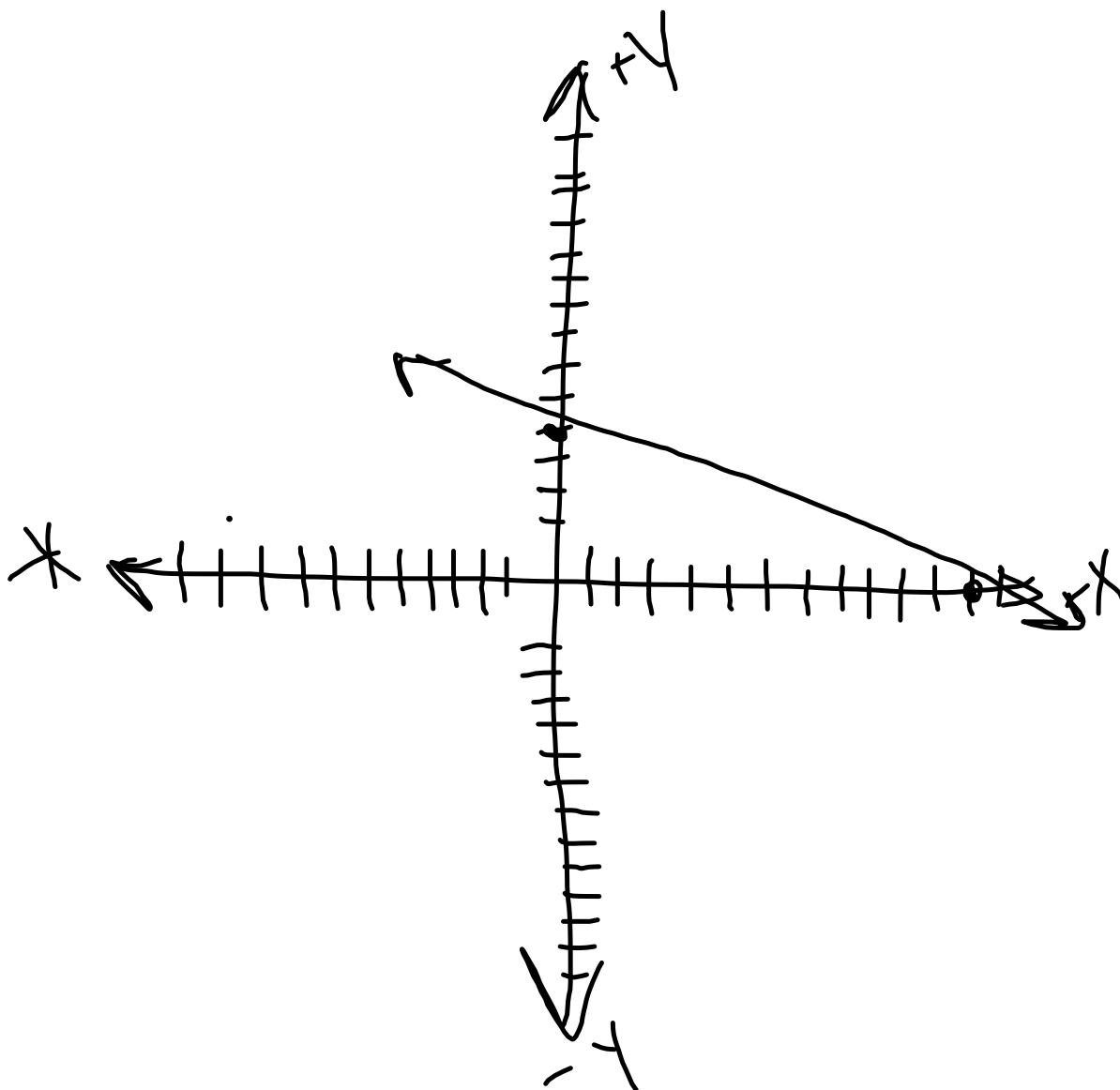
$$x = 10$$

$$y = 0$$

$$2x + 5y = 20$$

$$2x + 5(0) = 20$$

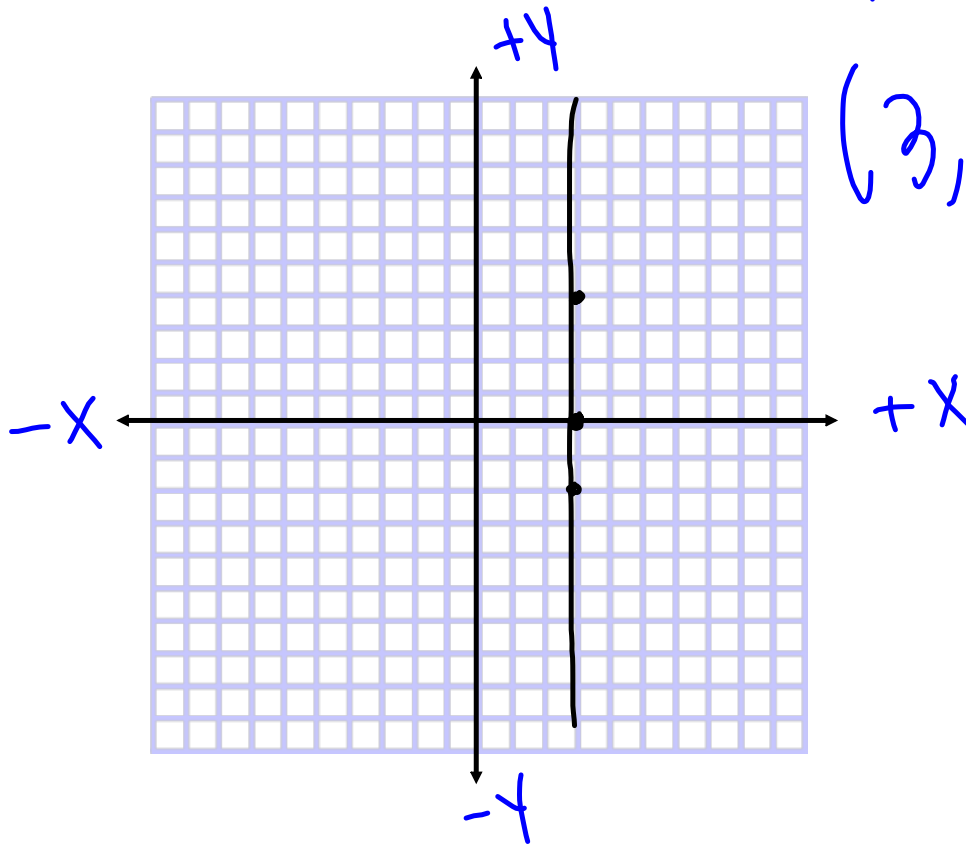
$$\frac{2x + 0}{2} = \frac{20}{2} \quad x = (10, 0)$$



A $x = 3$

$(3, 4)$

$(3, -2)$



B $y = 3$ $(2, 3)$ $(-4, 3)$

$(0, 3)$

