

DAY 26 HOMEWORK

Name: _____

1) Multiple Choice: What is the y-intercept of the line with the equation $x - 3y = -12$

a) (0, -12)

b) (0, -4)

c) (0, 4)

d) (0, 12)

$$\begin{aligned} -x &\Rightarrow -3y = -x - 12 \\ \frac{-x}{-3} &\quad \frac{-x}{-3} \quad \frac{-12}{-3} \\ &\Rightarrow y = \frac{1}{3}x + 4 \end{aligned}$$

$$\begin{aligned} b &= 4 \\ y\text{-int} &= (0, 4) \end{aligned}$$

#2-4 Rewrite the equation in slope-intercept form. Then identify the slope and the y-intercept of the line.

2) $x - y = 6$

$$\begin{aligned} -x &\quad -x \\ \frac{-y}{-1} &= \frac{-x + 6}{-1} \\ \frac{-y}{-1} &= \frac{-x}{-1} + \frac{6}{-1} \\ \frac{-y}{-1} &= x - 6 \\ \frac{-y}{-1} &\cdot \frac{-1}{-1} \\ y &= x - 6 \end{aligned}$$

3) $-12x - 4y = 2$

$$\begin{aligned} +12x &\quad +12x \\ \frac{-4y}{-4} &= \frac{12x + 2}{-4} \\ \frac{-4y}{-4} &= \frac{12x}{-4} + \frac{2}{-4} \\ \frac{-4y}{-4} &= -3x - \frac{1}{2} \\ \frac{-4y}{-4} &\cdot \frac{-1}{-1} \\ y &= -3x - \frac{1}{2} \end{aligned}$$

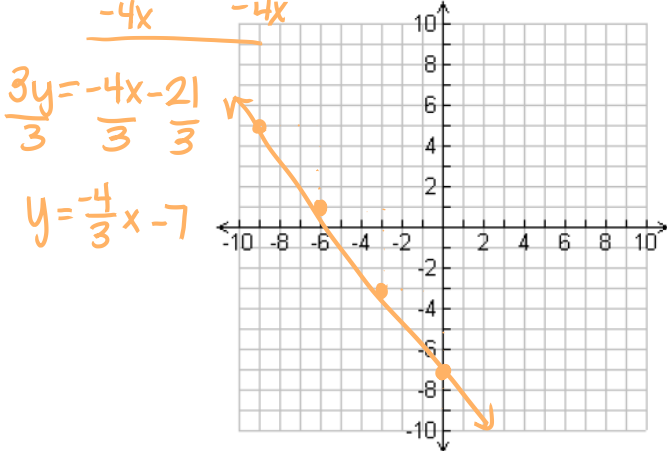
4) $-x - 10y = 20$

$$\begin{aligned} +x &\quad +x \\ \frac{-10y}{-10} &= \frac{x + 20}{-10} \\ \frac{-10y}{-10} &= \frac{x}{-10} + \frac{20}{-10} \\ \frac{-10y}{-10} &= -\frac{1}{10}x - 2 \\ \frac{-10y}{-10} &\cdot \frac{-1}{-1} \\ y &= \frac{1}{10}x - 2 \end{aligned}$$

$m = 1 \text{ or } \frac{1}{1} \quad b = -6 \quad (0, -6)$ $m = -3 \text{ or } -\frac{3}{1} \quad b = -\frac{1}{2} \quad (0, -\frac{1}{2})$ $m = \frac{1}{-10} \quad b = -2 \quad (0, -2)$

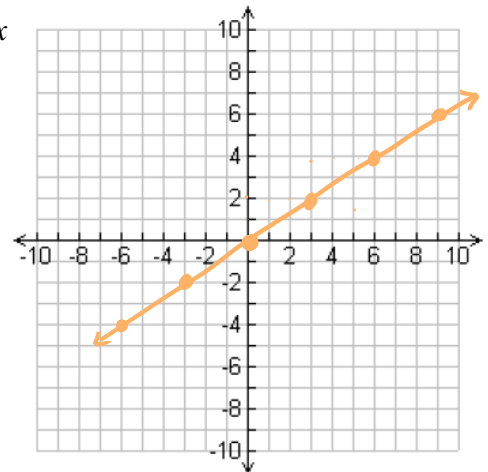
#5-6) Identify the slope and y-intercept. Then graph the following equations.

5) $4x + 3y = -21$



$m = -\frac{4}{3} \quad b = (0, -7)$

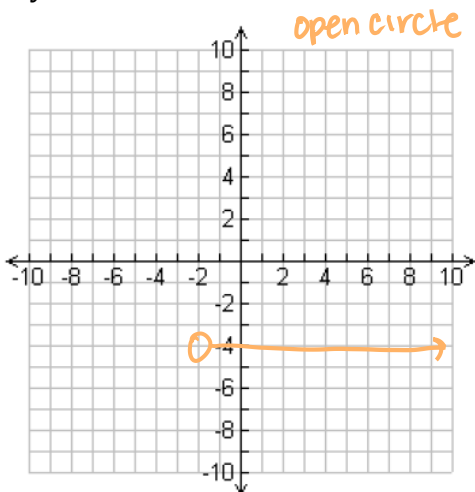
6) $y = \frac{2}{3}x$



$m = \frac{2}{3} \quad b = (0, 0)$

#7-8) Graph the function over the specified domain/range.

7. Graph $y = -4$ with domain $x > -2$



8. Graph $x = -1$ with range $y < 7$

