

## Practice Solving & Graphing

Solve for the variable. Check your solution.

9)  $-3(4r - 8) = -36$

$$\begin{aligned} -12r + 24 &= -36 \\ -24 \quad -24 \\ \hline -12r &= -60 \\ \frac{-12r}{-12} &= \frac{-60}{-12} \\ r &= 5 \end{aligned}$$

$$\begin{aligned} -3(4(5) - 8) &= -36 \\ -3(20 - 8) &= -36 \\ -3(12) &= -36 \quad \checkmark \end{aligned}$$

10)  $-3(1 + 6r) = 14 - r$

$$\begin{aligned} -3 - 18r &= 14 - r \\ +18r \quad +18r \\ \hline -3 &= 14 + 17r \\ +4 \quad +4 \\ \hline -17 &= 17r \\ \frac{-17}{17} &= \frac{17r}{17} \\ -1 &= r \end{aligned}$$

$$\begin{aligned} -3(1 + 6(-1)) &= 14 - (-1) \\ -3(1 - 6) &= 14 + 1 \\ -3(-5) &= 15 \quad \checkmark \end{aligned}$$

11)  $-12 = 3 - 2k - 3k$

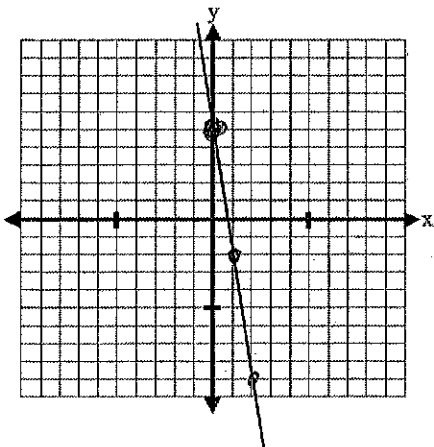
$$\begin{aligned} -12 &= 3 - 5k \\ -3 \quad -3 \\ \hline -15 &= -5k \\ \frac{-15}{-5} &= \frac{-5k}{-5} \\ 3 &= k \end{aligned}$$

$$\begin{aligned} -12 &= 3 - 2(3) - 3(3) \\ -12 &= 3 - 6 - 9 \\ &\checkmark \end{aligned}$$

Graph the following linear equations (hint: think about what you need to do first to the equation to be able to graph it).

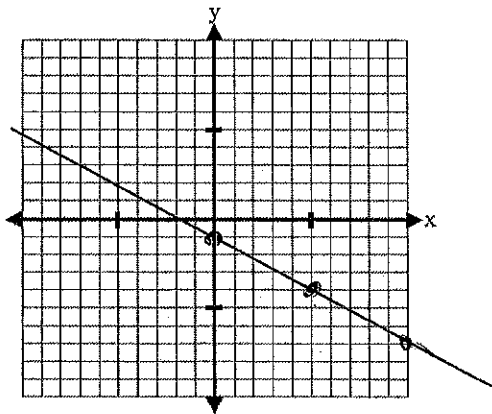
12)  $7x + y = 5$

$$\begin{aligned} -7x \quad -7x \\ \hline y &= -7x + 5 \end{aligned}$$



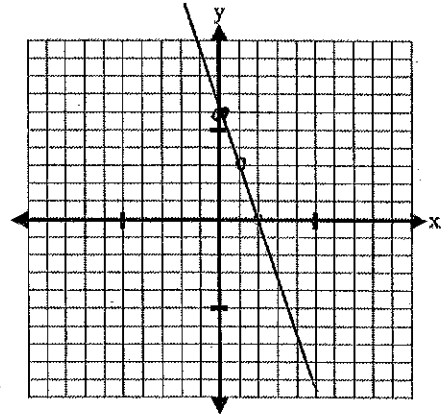
13)  $3x + 5y = -5$

$$\begin{aligned} -3x \quad -3x \\ \hline 5y &= -3x - 5 \\ \frac{5y}{5} &= \frac{-3x - 5}{5} \\ y &= -\frac{3}{5}x - 1 \end{aligned}$$



14)  $y = -3(x - 2)$

$$y = -3x + 6$$



Solve the following proportions. If necessary, round answers to the nearest tenth (0.1).

15)  $\frac{10}{8} \propto \frac{n}{10}$

$$\frac{100}{8} = \frac{8n}{8}$$

$$12.5 = n$$

16)  $\frac{7}{n} \propto \frac{8}{7}$

$$\frac{49}{8} = \frac{8n}{8}$$

$$6.125 = n$$

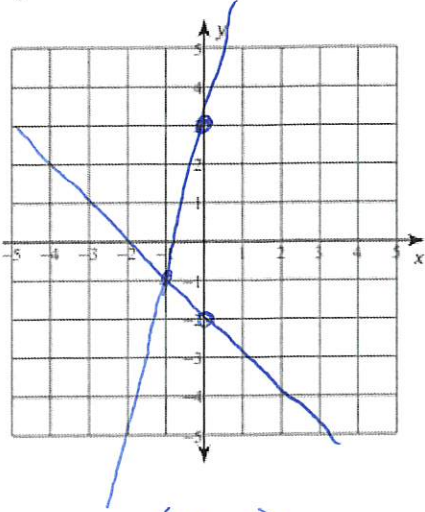
$$6.125 = n$$

17)  $\frac{7}{b+5} \propto \frac{10}{5}$

$$35 =$$

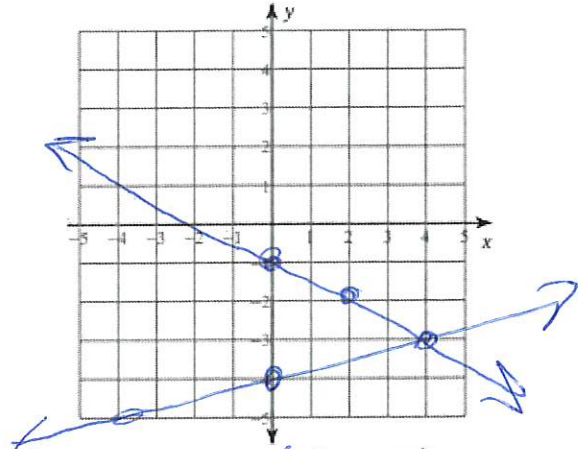
Practice

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



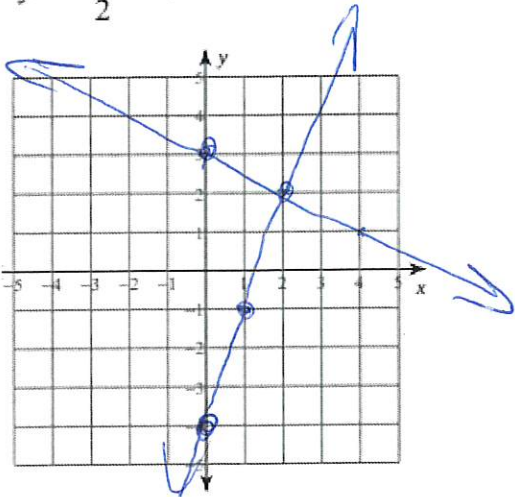
Solution:  $(-1, -1)$

5)  $y = -\frac{1}{2}x - 1$   
 $y = \frac{1}{4}x - 4$



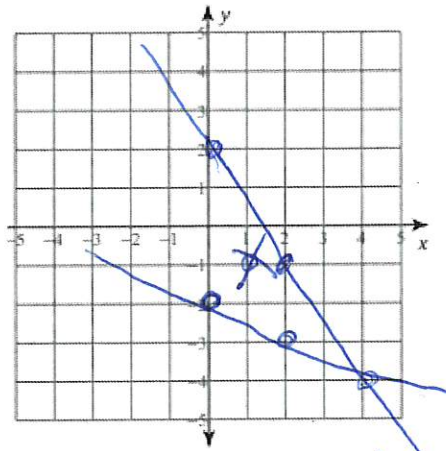
Solution:  $(4, -3)$

6)  $y = 3x - 4$   
 $y = -\frac{1}{2}x + 3$



Solution:  $(2, 2)$

7)  $y = -\frac{1}{2}x - 2$   
 $y = -\frac{3}{2}x + 2$



Solution:  $(4, -4)$

8) Complete the table to solve.

x	$y = 2x + 4$	$y = -3x + 44$
-4	$2(-4) + 4 = -4$	$-3(-4) + 44 = 56$
0	$2(0) + 4 = 4$	$-3(0) + 44 = 44$
4	$2(4) + 4 = 12$	$-3(4) + 44 = 32$
8	$2(8) + 4 = 20$	$-3(8) + 44 = 20$

Solution:  $(8, 20)$