

WarmUp #3

Write a linear equation in slope-intercept form given each point and slope.

1. $(5, -2)$; slope = -1
 $\begin{matrix} x & y \\ 5 & -2 \end{matrix}$

$$y = mx + b$$

$$-2 = -1(5) + b$$

$$-2 = -5 + b$$

$$\begin{matrix} +5 & +5 \\ \hline 3 = b \end{matrix}$$

$$y = -1x + 3$$

2. $(-8, -1)$; slope = $\frac{3}{4}$
 $\begin{matrix} x & y \\ -8 & -1 \end{matrix}$

$$y = mx + b$$

$$-1 = \frac{3}{4}(-8) + b$$

$$-1 = \frac{-24}{4} + b$$

$$\begin{matrix} -1 = -6 + b \\ +6 & +6 \\ \hline 5 = b \end{matrix}$$

$$y = \frac{3}{4}x + 5$$

3. $(-10, 5)$; slope = $-\frac{6}{5}$

$$y = mx + b$$

$$5 = -\frac{6}{5}(-10) + b$$

$$5 = \frac{60}{5} + b$$

$$5 = 12 + b$$

$$\begin{matrix} -12 & -12 \\ \hline -7 = b \end{matrix}$$

$$y = -\frac{6}{5}x - 7$$

4. $(-7, -8)$; slope = $\frac{1}{2}$
 $\begin{matrix} x & y \\ -7 & -8 \end{matrix}$

$$y = mx + b$$

$$-8 = \frac{1}{2}(-7) + b$$

$$-8 = -\frac{7}{2} + b$$

$$\begin{matrix} -8 = -3.5 + b \\ +3.5 & +3.5 \\ \hline -4.5 = b \end{matrix}$$

$$y = \frac{1}{2}x - 4.5$$

or

$$y = \frac{1}{2}x - \frac{9}{2}$$

WarmUp #4

Linear Equation Word Problems (Set 1)

Date:

1. The start-up cost to join iTunes music is \$7.95 plus \$0.95 per song downloaded. If Will spent \$26, write and solve a linear equation to find how many songs he downloaded.

$x = \#$ songs downloaded
 $f(x) = \text{total cost}$
 start up cost + 0.95 per song = total cost

$$\begin{matrix} 7.95 + 0.95(x) = 26.00 \\ -7.95 & & -7.95 \\ \hline 0.95x = 18.05 & & x = 19 \\ .95 & & .95 \end{matrix}$$

rate slope

Will download 19 songs.

2. At a pet store, it costs \$5 to wash a cat and \$7.50 to wash a dog. Last week, the store made \$60 from washing cats and dogs. If 6 cats were washed, write and solve a linear equation to find how many dogs were washed.

$x = \#$ dogs washed
 $f(x) = \text{total}$
 $\#$ of dogs (cost per dog) + $\#$ of cats (cost per cat) = total

$$\begin{matrix} x \cdot 7.50 & & 6 \cdot 5 & & = 60 \\ 7.50x + 30 = f(x) \end{matrix}$$

$$\begin{matrix} 7.50x + 30 = 60 \\ -30 & -30 \\ \hline 7.50x = 30 \\ 7.50 & 7.50 \\ \hline x = 4 \end{matrix}$$

There were 4 dogs washed last week.