

Monday, October 4th

Due Today: Nothing, but did you get your Math Counts WU 2 turned in last Friday?

Warm Up

If y varies directly as x , determine the value of x when y is 60 if y is 15 when x is 3.

$$x = 12$$

Section 4.7 : Graph Linear Functions

Traditional Notation VS Function Notation

$$y = 2x - 4$$

$$y = 2(1) - 4$$

$$y = 2 - 4$$

$$y = -2 \begin{matrix} \ddots \\ \longleftrightarrow \end{matrix}$$

$$f(x) = 2x - 4$$

$$f(1) = 2(1) - 4$$

$$f(1) = 2 - 4$$

$$f(1) = -2 \leftarrow (1, -2)$$

∩

Ex:) Evaluate the function when $x = -4$, and $x = 3$.

$$f(x) = 5x + 1$$

$$f(3) = 5(3) + 1$$

$$f(3) = 15 + 1$$

$$f(3) = 16$$

$$f(-4) = 5(-4) + 1$$

$$f(-4) = -20 + 1$$

$$f(-4) = -19$$

Ex:) Find the value of x so that the function has the given values: 1 and 5.

$$f(x) = \frac{2}{3}x + 3$$

SET $f(x) = 1$
 $f(x) = 5$

$$1 = \frac{2}{3}x + 3$$

$$\frac{3}{3}(-2) = \left(\frac{2}{3}x\right) \frac{3}{3}$$

$$-3 = x$$

$$\boxed{x = -3}$$

$$5 = \frac{2}{3}x + 3$$

$$\frac{3}{3}(2) = \left(\frac{2}{3}x\right) \frac{3}{3}$$

$$3 = x$$

$$\boxed{x = 3}$$

$$\frac{1}{8} \left(\frac{1}{8} x \right) = \left(\frac{3}{1} \right) \frac{5}{8} \rightarrow x = 15$$

$$8 \cdot \frac{3x}{8} = 9 \cdot 5$$

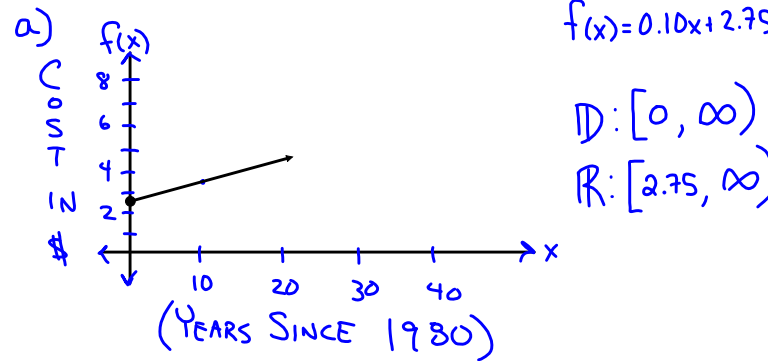
$$3x = 45$$

$$x = 15$$

Ex:) The average price of a movie ticket in the U.S. from 1980 to 2000 can be modeled by the function $f(x) = 0.10x + 2.75$ where x is the number of years since 1980.

a. Graph the function & identify its domain and range.

b. Find the value of x so that $f(x) = 4.55$. Explain what the solution means in this situation.



b)

$$\begin{array}{r} 4.55 = 0.10x + 2.75 \\ -2.75 \quad -2.75 \\ \hline 1.80 = 0.10x \\ \hline 0.10 \quad 0.10 \end{array}$$

$18 = x$
 $x = 18$

$\begin{array}{r} 1980 \\ + 18 \\ \hline 1998 \end{array}$	<p>In 1998, A Movie Ticket Cost \$4.55</p>
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Practice:

Section 4.7 :

3, 10, 12, 14, 16, 17, 20, 40, 41, 43