

**Bell Ringer - Solve the equation.**

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$$\begin{array}{r} -8m + -14 = 12m + -20 \\ -12m \qquad \qquad -12m \end{array}$$

$$\begin{array}{r} -20m + -14 = -20 \\ \qquad \qquad +14 \qquad +14 \end{array}$$

$$\frac{-20m}{-20} = \frac{-6}{-20}$$

$$m = \frac{6}{20} = \frac{3}{10}$$

## Using Slope-Intercept Form in Story Problems

1) Define the variables

2) Write an equation to model the situation

$$y = mx + b$$

3) Graph using the slope and intercept

4) Interpret what the slope represents

5) Interpret what the x and y intercepts represent

Example: Jack has written 30 pages of his novel. He plans to write 10 pages per week until he has completed his novel. Write an equation in slope-intercept form to represent this situation

x-variable = # of weeks

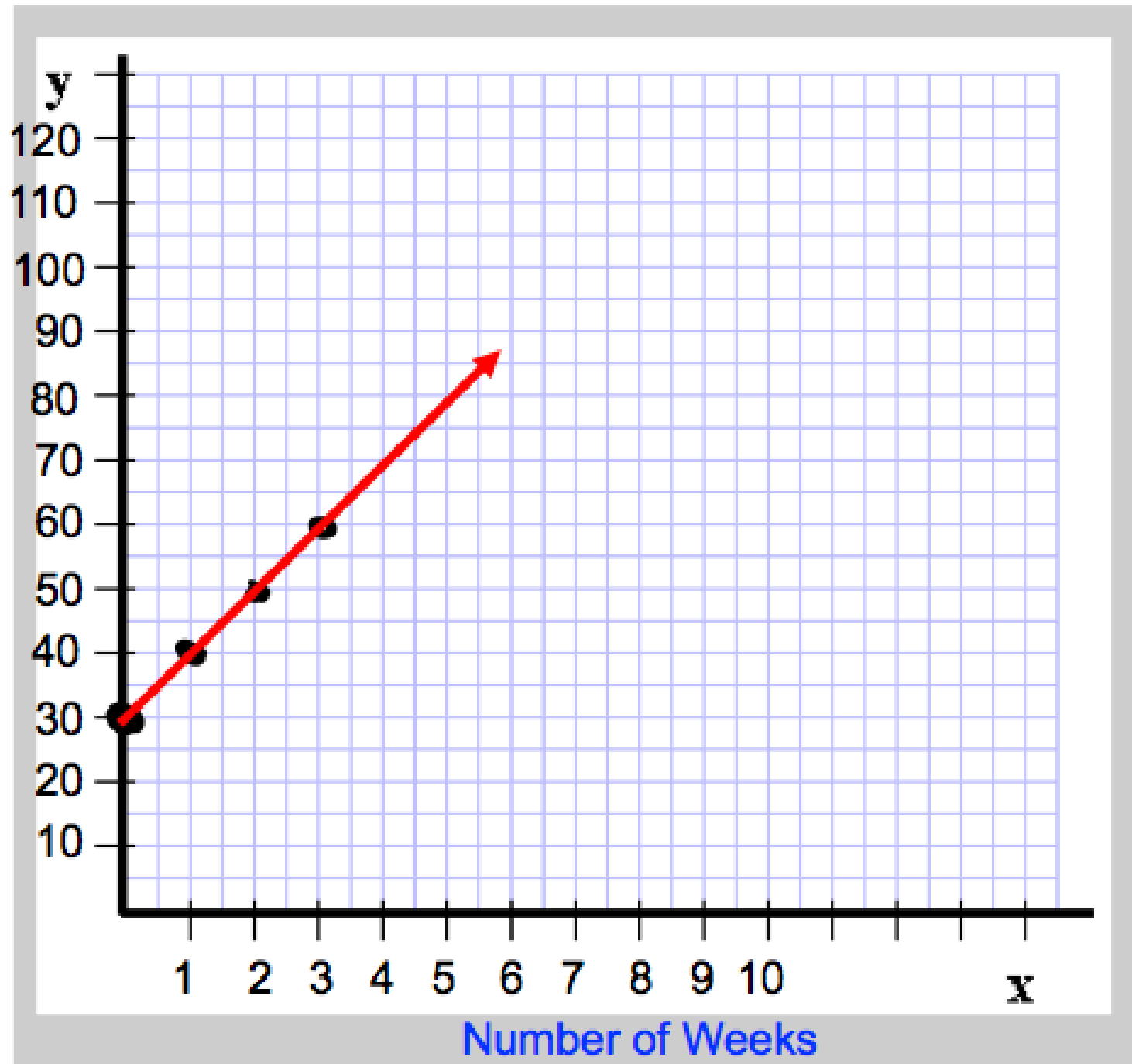
y-variable: # of pages written

Equation:  $y = 10x + 30$

slope (m) = 10 or  $\frac{10}{1}$

y-intercept: 30

Number of  
Pages  
Written



1) What does the slope represent?

The slope represents the number of pages (10) that Jack writes each week.

2) What does the y-intercept represent?

The y-intercept (0,30) is amount of pages Jack has written before he starts writing 10 pages per week.

3) What does the x-intercept represent?

In this story problem, a real-life x-intercept does not exist because the problem begins with Jack having already written 30 pages.