

Algebra 1

Chapter 4

Section 4-5

Review: Word Phrases

Write an algebraic expression from each word phrase

The sum of eleven and a number

$$11 + x$$

Seven more than the product of two and x

$$2x + 7$$

Seven less than the quotient of x and twenty

$$\frac{x}{20} - 7$$

Word Phrase Equations

Write an algebraic equation from each word phrase

← equals
y is ten more than x

$$y = 10 + x$$

y is three less the product of eight and x

$$y = 3 - 8x$$

Writing and Graphing an Equation

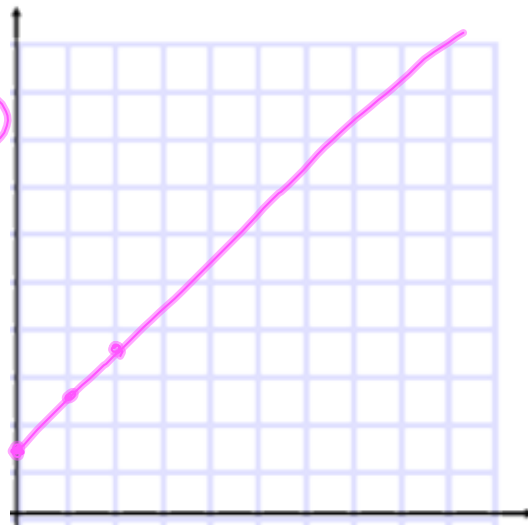
Renting a movie for a night costs \$1.50. There is a charge of \$1 for each additional night. Write an equation expressing the relationship between the number of additional nights (x) and the cost (y).

$$y = 1.50 + x$$

Renting a movie costs \$1.50 for one night plus \$1 per additional night. Write an equation expressing the relationship between the number of additional nights (x) and the cost (y). Then Graph.

x	y
0	1.50
1	2.50
2	3.50

$$(y = 1.50 + x)$$



Writing an Equation

Tina's mom starts her an itunes account and buys her 50 songs to start her iTunes library. Tina is then allowed to buy 20 new songs each month. Write a function rule, in terms of months, x , and songs, y , that describes this growth.

$$y = 50 + 20x$$

Writing an Equation

Jim T. Beau charges \$65,000 for a public appearance. Write a relationship between the number of public appearances Jim makes, p, and the dollars, d, he earns.

$$d = 65000p$$

Writing an Equation

"Hot Rod" Mike borrowed \$1500 from his parents to buy a car. He agrees to pay them \$25 per month to lower the debt. Write a function rule relating his debt, d, and his monthly payments, p.

* How long will it be before he has paid them back in full?

$$d = 1500 - 25p \quad \rightarrow d = 0$$

$$0 = 1500 - 25p$$

$$\begin{array}{r} +25p \\ 25p = 1500 \end{array} \quad \begin{array}{r} +25p \\ \hline 25 \end{array}$$

$$p = 60 \text{ months}$$

Writing an Equation

A rectangle has a length that is 10m longer than its height. Write a function rule relating the area of the rectangle to its height.

What is the area when the height is 4 m?

$$A = \ell \cdot h$$

\swarrow $10+h$

$$A = (10+h) \cdot h$$

if $h=4$

$$A = (10+4) 4$$

$$A = 14 \cdot 4$$

$$A = 56 \text{ m}^2$$

