

Bell Work!

1. What is the difference between an expression and an equation?

Chapter 2.1 (Writing Equations)

Objectives:

- Translate sentences into equations.
- Translate equations into sentences.

Algebraic Expression - mathematical statement with variables, numbers, and operations (**NO** Equal Sign)

$$2x + 3$$

Equation - a mathematical statement that contains an equal sign

$$2x + 3 = 15$$

Translate Sentences into Equations

Ex 1. Translate this sentence into an equation.

A number b divided by three is equal to six less than c .

$$\underbrace{b \text{ divided by three}}_{\frac{b}{3}} \quad \underbrace{\text{is equal to}}_{=} \quad \underbrace{\text{six less than } c}_{c - 6}$$

Answer: The equation is $\frac{b}{3} = c - 6$.

Ex 2. Translate this sentence into an equation.

Fifteen more than z times six is y times two minus eleven.

$$\underbrace{\text{Fifteen}}_{15} \quad \underbrace{\text{more than}}_{+} \quad \underbrace{z}_{z} \quad \underbrace{\text{times}}_{\times} \quad \underbrace{\text{six}}_{6} \quad \underbrace{\text{is}}_{=} \quad \underbrace{y}_{y} \quad \underbrace{\text{times}}_{\times} \quad \underbrace{\text{two}}_{2} \quad \underbrace{\text{minus}}_{-} \quad \underbrace{\text{eleven}}_{11}$$

Answer: The equation is $15 + 6z = 2y - 11$.

Practice

Translate each sentence into an equation.

1. A number c multiplied by six is equal to two more than d .

2. Three less than a number a divided by four is seven more than 3 times b .

Writing a Formula

Ex. 1 Translate the sentence into a formula.

The perimeter of a square equals four times the length of a side.

Words	Perimeter equals four times the length of a side.
Variables	Let P = perimeter and s = length of a side.
	Perimeter equals four times the length of a side.
Formula	$P = 4s$

Answer: The formula is $P = 4s$.

Translate Equations into Sentences

Ex. 1 Translate the equation into a verbal sentence.

$$12 - 2x = -5$$

$\underbrace{12}$ $\underbrace{-}$ $\underbrace{2x}$ $\underbrace{=}$ $\underbrace{-5}$
Twelve minus two times x equals negative five.

Answer: Twelve minus two times x equals negative five.

Ex. 2 Translate the equation into a verbal sentence.

$$a^2 + 3b = \frac{c}{6}$$

Answer: a squared plus three times b equals c divided by six.

Practice

Translate each equation into a verbal sentence.

$$\frac{12}{b} - 4 = -1$$

$$5a = b^2 + 1$$

Homework

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