

Teaching Notes for Algebra I

Homework #4

Overview: In this lesson, students will review math god problems and how to set up a math god problem in order to solve a percent word problem. Students will learn how to translate and simply.

Preparation: Watch videos on “math god” and “translate and simply” and review notes from Pre-Algebra homework # 5.

Classroom Examples:

1) Solve: $-20 \div 5(-2 - 2) - 3(2x - 5) - 6x - 3^2 = 2(5x - 8) - (-1 - 1)^4$

$$-20 \div 5(-4) - 3(2x - 5) - 6x - 3^2 = 2(5x - 8) - 1(-2)^4$$

$$-20 \div 5(-4) - 3(2x - 5) - 6x - 9 = 2(5x - 8) - 1(16)$$

$$16 - 6x + 15 - 6x - 9 = 10x - 16 - 16$$

$$-12x + 22 = 10x - 32$$

$$22 = 22x - 32$$

$$54 = 22x$$

$$\frac{27}{11} = x$$

2) 108 is 24 percent of what number?

$$108 = 24\% \cdot x$$

$$108 = \frac{24x}{100}$$

$$\frac{100 \cdot 108}{24} = x$$

$$450 = x$$

3) Translate and simplify: Six more than the product of two and nine less than a number

$$2 \cdot (x - 9) + 6$$

$$2x - 18 + 6$$

$$2x - 12$$

4) 48 is what percent of 144?

$$48 = x \cdot 144 \quad F \Leftrightarrow D \Leftrightarrow P$$

$$\frac{1}{3} = x \quad \frac{1}{3} \quad \bar{3} \quad 33.\bar{3}\%$$

Teaching Notes for Algebra I

Homework #4

5) Solve: $-4(3x-2) - (-5x-1) = -3(x-9)^0 - 5(4x-7) - 3^2$

$$-4(3x-2) - 1(-5x-1) = -3(x-9)^0 - 5(4x-7) - 3^2$$

$$-4(3x-2) - 1(-5x-1) = -3(1) - 5(4x-7) - 9$$

$$-12x + 8 + 5x + 1 = -3 - 20x + 35 - 9$$

$$-7x + 9 = -20x + 23$$

$$13x + 9 = 23$$

$$13x = 14$$

$$x = \frac{14}{13}$$

- 6) Translate and simplify: Ten less than the difference between four times a number and seven

$$1(1(4 \cdot x) - 7) - 10$$

$$1(4x - 7) - 10$$

$$4x - 7 - 10$$

$$4x - 17$$