

LIVE Online Math Pre-Algebra -- Assignment 4-4

1.) Solve the equation below.

$$-x + -3 = 5x$$

2.) Solve the equation below.

$$2r = -20 \hat{=} 2r$$

3.) Solve the equation below.

$$-2y + -12 = -21 \hat{=} 5y$$

4.) Solve the equation below.

$$-3g \hat{=} 13 = -13 \hat{=} (-g)$$

5.) Solve the equation below.

$$20(-3r \hat{=} 22) = -11 \hat{=} 21r$$

6.) Solve the equation below.

$$-6(-7g + -15) = 4 + -g$$

7.) Solve the equation below.

$$10n \hat{=} 16n \hat{=} (-4) = -9n + 23$$

8.) Solve the equation below.

$$19y + -18y \hat{=} (-22) = 2y \hat{=} (-16)$$

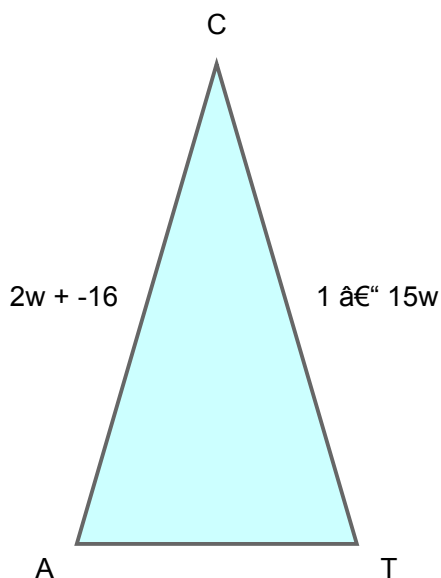
9.) Solve the equation below and express the answer as a reduced fraction..

$$-6(10m + 5) = 3(3 + -2m)$$

10.) Solve the equation below.

$$-25(-x \hat{=} 23) = 2(11.5x + 1)$$

11.) Regarding triangle CAT shown below, determine the value of "w" that would make it an isosceles triangle.



- 12.) A hot air balloon is 120 feet above the ground and descending at a rate of 5 feet/second. A second balloon is at 30 feet above the ground and rising at a rate of 10 feet/second.

After how many seconds will the two balloons be at the same altitude?

- 13.) As light bulb technology has advanced, many conventional incandescent light bulbs have been replaced by compact fluorescent bulbs (CFL's). More recently light emitting diodes (LED's) have been developed as an alternative to CFL's. Both kinds of bulbs are more expensive than traditional bulbs to buy, but use less energy, so it is necessary to look at a total cost (including the number of hours) to determine which bulb will be cheaper overall.

The total cost of a light bulb can be calculated by adding the cost to purchase the bulb to the cost of the energy required to use it. This can be represented by the following equation...

$$\text{Total Cost} = \text{Cost of Bulb} + (\text{Cost of Electricity} \times \text{Power Needed} \times \text{Number of Hours})$$

The table below provides some typical data for the cost to purchase these CFL and LED bulbs, as well as the energy they require when used. A typical cost for electricity is also provided.

Using "t" to represent the number of hours write an equation that determines the number of hours that are required to make an LED bulb an equally-good purchase as a CFL. Then solve the equation to determine the number of hours.

- 14.) Determine if the given value is the solution of the equation or not.

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$$120n$$

$$-92 = -3n \quad (n = 30)$$

- 15.) Solve the equation below.

$$6 - 11x = 28$$

16.) Solve the equation below. Express your answer as a reduced fraction if it is not an integer.

$$5 = -14m - (-6)$$

17.) Solve the equation below.

$$120 = -12w + -6 - (-9w)$$

18.) Solve the equation below.

$$32 = -8(w - 3)$$

19.) Solve the equation below.

$$15c - (-12 - (-3c)) = -24$$