

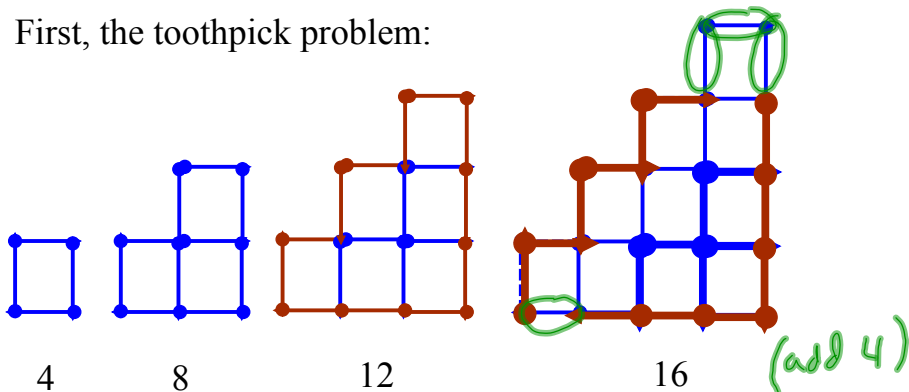
7.2 - Applications of Linear Equations

Homework: 17, 19, 26, 37, 39, 45,
47, 49, 51, 65, 69, 73, 75



Oct 22-8:36 AM

First, the toothpick problem:



1. Use pattern to find perimeter of Shape 5. How'd you get that?

20 (table:
$$\begin{array}{r|l} 1 & 4 \\ 2 & 8 \\ 3 & 12 \\ 4 & 16 \end{array})$$

2. Formula for finding perimeter for any Shape n . How'd you get that?

Oct 22-10:01 AM

Homework Questions?

39) Solve:

$$21 \left(\frac{2r-3}{7} + \frac{3}{7} \right) = \left(-\frac{r}{3} \right) (21)$$

$$3(2r-3) + 3 \cdot 3 = -7r$$

67) a. $A = \frac{1}{2}bh$ solve for h

$$\frac{1}{b}(2A) = bh \cdot \frac{1}{b}$$

$$\frac{2A}{b} = h$$

Oct 22-10:12 AM

1. Age Problem: In two years, Angie will be twice as old as her three year old brother. How old is Angie now?

Let x be Angie's age now.

$$x+2 = 2(3+2)$$

$$x+2 = 10$$

$$x = 8.$$

check: if Angie is 8, then

✓ in 2 years she's 10, which is twice as old as her 5-year old bro.

Oct 22-9:00 AM

2. Number Problem: The sum of three consecutive numbers is 84. What is the largest number?

Let x be the largest number.

$$(x-2) + (x-1) + x = 84$$

$$3x - 3 = 84$$

$$3x = 87$$

$$x = \frac{87}{3} = 29 \text{ — the largest \#.}$$

84

Estimate first.

Does the answer make sense?

Oct 22-9:01 AM

3. Percent Problem: A clothing store holding a clearance sale advertises that all prices have been discounted 20%. If a shirt is on sale for \$28, what was its presale price?

Let x be the pre sale price.

$$1x - .20x = 28$$

$$.80x = 28$$

$$x = \frac{28}{.8} = 35$$

-OR-

$$\left[\frac{28}{.80} = \frac{x}{1.00} \right]$$



Does the answer make sense?

Oct 22-9:01 AM

4. Percent Problem: The bookstore marks up all items by 25%. This week they are holding a sale for which all prices are 25% off the selling price. If c is the cost of an item to the book store and p is the sales price of the item, write an equation that represents p in terms of c ? Will the dealer make money?

$$.75(c + .25c) = p$$

orig. selling price

Is $p > c$?

$$.75c + .1875c = p$$

$$.9375c = p$$

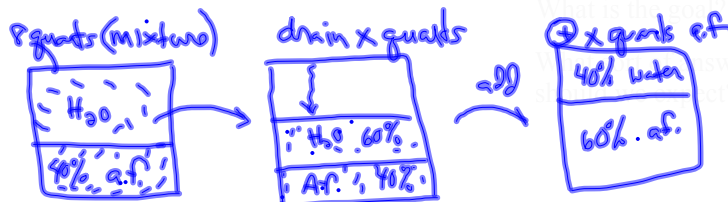
What sort of answer would make sense?

Is $p > c$?
Is $.9375c > c$?

Nope.

Oct 22-9:02 AM

5. Mixture Problem: A radiator contains 8 quarts of a mixture of water and antifreeze. If 40% of the mixture is antifreeze, how much of the mixture should be drained and replaced by pure antifreeze so that the resultant mixture will contain 60% antifreeze?



Consider how many quarts of a.f. are in the radiator.

$$.40(8) - .40(x) + x = .60(8)$$

$$3.2 - .4x + x = 4.8$$

$$.6x + 3.2 = 4.8$$

$$\quad \quad -3.2 \quad -3.2$$

$$.6x = 1.6$$

$$x = \frac{1.6}{.6} = 2\frac{2}{3}$$

Oct 22-9:03 AM