

LEARNING OBJECTIVE: We will solve word problems involving linear equations. (G8M4L8)

CONCEPT DEVELOPMENT:

We can use linear equations to solve simple 2-step equations as well as more complicated problems as well. We need to read carefully and create the equation!

GUIDED PRACTICE:

Steps for Solving Word Problems

1. Read the problem carefully underlining the important information.
2. Identify your variable.
3. Create an equation that represents the situation presented.
4. Use the properties of equality to isolate your variable.
5. Interpret your answer.

Marvin paid an entrance fee of \$5 plus an additional \$1.25 per game at a local arcade. Altogether, he spent \$26.25. Write and solve an equation to determine how many games he played.

Let x = # of games played.

$$\begin{array}{r} 5 + 1.25x = 26.25 \\ -5 \qquad \qquad -5.00 \\ \hline 1.25x = 21.25 \\ \frac{1.25x}{1.25} = \frac{21.25}{1.25} \\ x = 17 \end{array}$$

Marvin played
17 games

Catherine went bowling. She rented shoes for \$3.25 and then had a great time bowling—in fact she bowled 4 games. She spent \$21.65 altogether. How much was each game of bowling?

$$3.25 + 4x = 21.65$$

x = cost of a game

Each game cost \$4.60

A book has x pages. How many pages are in the book if Claire read 45 pages of a book Monday, $\frac{1}{2}$ the book Tuesday, and the remaining 72 pages Wednesday?

$$\begin{array}{r} 45 + \frac{1}{2}x + 72 = x \\ \frac{1}{2}x + 117 = x \\ -\frac{1}{2}x \qquad \qquad -\frac{1}{2}x \\ \hline 2(117) = (\frac{1}{2}x)2 \\ 234 = x \end{array}$$

Claire's book is 234 pages long

On our family trip to Albuquerque, we drove 250 miles the first day, and then $\frac{2}{5}$ of the way the next day, and finally arrived in Albuquerque after driving another 425 miles on the third day. How long was our trip one way to Albuquerque?

x = total distance

$$250 + \frac{2x}{5} + 425 = x$$

$$\begin{array}{r} \frac{2x}{5} + 675 = x \\ -\frac{2x}{5} \qquad \qquad -\frac{2x}{5} \\ \hline \frac{5(675) - 2x}{5} = \frac{5x}{5} \\ 1125 = x \end{array}$$

It's 1125 mi to drive to Albuquerque

Mr. Harter invests half of his money in mutual funds, a tenth in individual stocks, and one quarter of it in bonds. He kept the remaining \$3000 in a savings account. How much money does Mr. Harter have saved or invested?

$$x = \$ \text{ saved or invested}$$

$$\frac{1}{2}x + \frac{1}{10}x + \frac{1}{4}x + 3000 = x$$

$$(.95x) \quad \frac{17}{20}x + 3000 = x$$

$$\frac{20}{3} (3000) = \left(\frac{3}{20}x\right) \frac{20}{3}$$

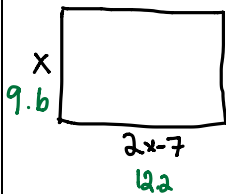
$$20000 = x$$

Mr. Harter has \$20,000

In Ms. Mueller's 5th period class, half of her students received an A or a B on their first exam, three-tenths received a C, and the remaining 6 students received a D or an F. How many students are in Ms. Mueller's 5th period class?

Miss Mueller has 30 students in 5th grad.

The width of a rectangle is 7 less than twice its length. If the perimeter is 43.6, what is the area?



$$\begin{array}{r} 12.2 \\ \times 9.6 \\ \hline \end{array}$$

$$2x + 2(2x - 7) = 43.6 \quad 117.12 \text{ in}^2$$

$$2x + 4x - 14 = 43.6$$

$$6x - 14 = 43.6$$

$$+14 \quad +14$$

$$6x = 57.6$$

$$\div 6 \quad \div 6$$

$$x = 9.6$$

The area is
117.12 in²

129.28 in²

NAME: _____

Math _____, Period _____

Mr. Rogove

Date: _____

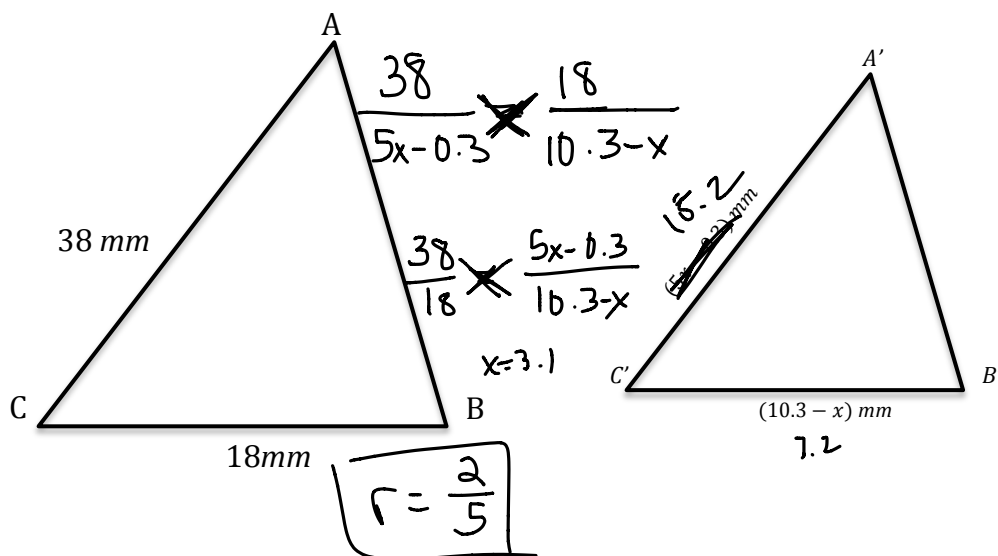
INDEPENDENT PRACTICE:

Linear Equation Word Problems on Khan??

ACTIVATING PRIOR KNOWLEDGE:

CLOSURE:

Below are two similar triangles. Determine the length of AC' and BC' .



TEACHER NOTES:

Lesson 9 from ENY

Do the Sammy Chipmunk Illustrative Math as well.