

Name: _____

Date: _____

Ms. Streffacio

Class: _____

I can:

Do Now (3 minutes to complete):

What is the value of t that satisfies the equation below?

$$3(t + 4) - 2(2t + 3) = -4$$

A $-\frac{11}{3}$

B $-\frac{4}{5}$

C 10

D 11

Model (10 minutes) You Watch, Listen, Copy:

Consider the equation below.

$$\frac{1}{5}(x + 2) + 2x = 6x - 10$$

Part A

Which property can be used to simplify the expression $\frac{1}{5}(x + 2)$?

Answer _____

Part B

Simplify the equation by collecting all of the x -terms on one side of the equation, all of the constants on the other side, and then combining like terms. **Show your work.**

Part C

What is the value of x ? **Show your work.**

Answer _____

Check for Understanding- Did you understand the Model? (2 minutes) Teacher will check!

Show two different ways to solve $\frac{1}{4}x - 5 = \frac{3}{4}x - 12$.

Show your work.



Can you multiply both sides of the equation by a number to get a simpler equation without fractions?

We Do Together (10 minutes):

A square and an equilateral triangle have the same perimeter. Each side of the triangle is 4 inches longer than each side of the square. What is the perimeter of the square?

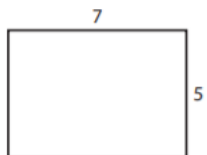
Show your work.

Answer _____ inches

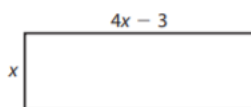
Final Check for Understanding before I send you to Independent Practice! Teacher will Check (4 minutes):

The two rectangles shown below have the same perimeter. Write and solve an equation to find the value of x . Then find the measures of the length and width of Rectangle B. All measurements are in inches.

Rectangle A



Rectangle B



Equation: _____

$x =$ _____

Length of Rectangle B: _____

Width of Rectangle B: _____

Independent Practice (on your own):

What, if any, are the solutions to the equation $3(0.5x - 4) = \frac{3}{2}x - 1.2$?

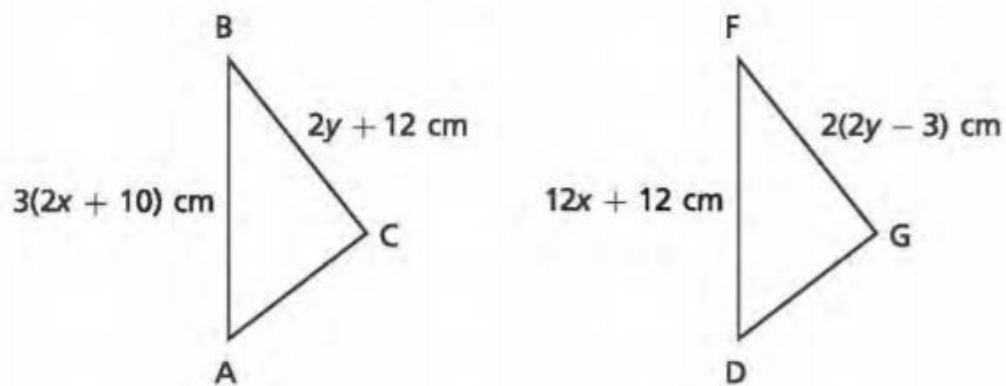
Show your work.

Determine the number of solutions that exist to the equation below.

$$8(j - 4) = 2(4j - 16)$$

Show your work.

Triangle ABC is translated to create triangle DFG, as shown below.



In these triangles, side AB is congruent to side DF, and side BC is congruent to side FG. Determine the values of x and y .

Show your work.

Determine the solution to the equation below.

$$-3.1x + 7 - 7.4x = 1.5x - 6\left(x - \frac{3}{2}\right)$$

Show your work.

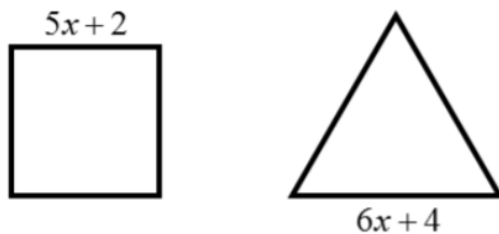
An equation is shown below.

$$3(x - 2) + 7x = \frac{1}{2}(6x - 2)$$

How many solutions, if any, does the equation have?

Show your work.

An equilateral triangle and a square are shown below. The lengths of one side are given.



Part A

The equilateral triangle and square have equal perimeters. Write an equation to show this relationship.

Show your work.

Equation _____

Part B

Solve the equation from *Part A* to find the value of x .

Show your work.

Solution _____

Part C

What is the area of the square?

Show your work.

Area _____square units

Solve the following linear equation. Be sure to show each line of your work.

$$\frac{1}{5}(x + 60) = \frac{2}{3}x - 2$$

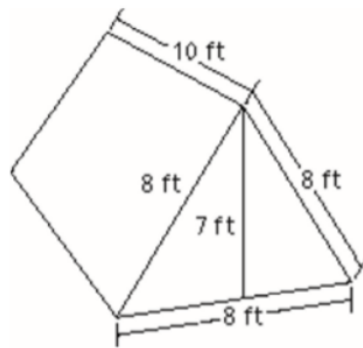
Write your answer in simplest form.

Solution _____

Determine whether the equation has no solution, one solution, or infinitely many solutions.

$$-2(11 - 12x) = -4(1 - 6x)$$

The image below shows a tent pitched at a campground.



Part A

What is the area of the rectangular bottom and each of the rectangular sides? **Show your work.**

Answer _____

Part B

What is the area of each of the triangular ends? **Show your work.**

Answer _____

Part C

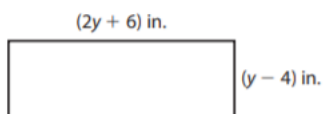
What is the surface area of the tent? **Show your work.**

Answer _____

Solve the equation for x : $3x - 5 = \frac{1}{2}x + 2x$.

Show your work.

The width of this rectangle is $\frac{1}{3}$ of the length. Find the length and the width of the rectangle.



Show your work.

What equation can you write to solve the problem?



Koby's solution for $4(x - 3) = \frac{1}{2}x + 2$ is shown at the right. Did he solve the equation correctly? Explain why or why not.

$$4(x - 3) = \frac{1}{2}x + 2$$

$$4x - 12 = \frac{1}{2}x + 2$$

$$2 \cdot (4x - 12) = 2 \cdot \left(\frac{1}{2}x + 2\right)$$

$$8x - 12 = x + 2$$

$$8x = x + 14$$

$$\frac{7x}{7} = \frac{14}{7}$$

$$x = 2$$

Evelyn says that the equation $3(x - 3) + 5 = 3x + 1 + 4$ has infinitely many solutions because the variable terms on each side are the same. Do you agree with Evelyn? Explain why or why not.
