Word Problems

- For each problem:

1) Define a variable.
2) Write an equation representing the situation.
3) Solve the equation and describe the meaning of your solution.

- Meigs' Mathletes need money to travel to a competition. They have raised $560. They need to raise a total of $1680. Write and solve an equation to find how much more they need.

1) m = amount of money they need

2) m + 560 = 1680

3) m = 1120

They need $1120 more.

1) Define a variable.
2) Write an equation representing the situation.
3) Solve the equation and describe the meaning of your solution.

- You are buying some shirts. You have to pay \$10 for shipping, plus \$8 per shirt. You have \$66 to spend.

1) Define a variable.
2) Write an equation representing the situation.
3) Solve the equation.
4) Describe the meaning of your solution.

1) s = # of shirts you can buy
2) 8s + 10 = 66
3) s = 7
You can buy 7 shirts

- A group of people went to the movies. They each spent $6.50 per ticket. They spent $17.50 together on snacks. Altogether, they paid $63.00.
  1) Define a variable.
  2) Write an equation representing the situation.
  3) Solve the equation.
  4) Describe the meaning of your solution.

1) p = # of people

2) 6.50p + 17.50 = 63.00

3) p = 7

7 people went to the movies.

- You enter the fair with $35. You buy 14 tickets, which all cost the same amount. After you buy the tickets, you have $7 left.

  1) Define a variable.
  2) Write an equation representing the situation.
  3) Solve the equation.
  4) Describe the meaning of your solution.

1) c = cost of a ticket

2) 35 – 14c = 7

3) c = 2

Each ticket is $2.

- **Billy started with $7 and made $3 per week. Bobby started with $2 and made $4 per week. How many weeks will it take for them to have the same amount of money? How much money will they both have?**

1) Define a variable.
2) Write an equation representing the situation.
3) Solve the equation.
4) Describe the meaning of your solution.

1) w = # of weeks
2) 7 + 3w = 2 + 4w
3) w = 5
4) After 5 weeks, they will have the same amount of money.
They will each have $22.

- Write a story problem that could be modeled by the equation **$3x + 8 = 20$.**

Story Problem (on back of handout)

- **Billy started with $7 and made $3 per week. Bobby started with $2 and made $4 per week. How many weeks will it take for them to have the same amount of money? How much money will they both have?**

1) Define a variable.
2) Write an equation representing the situation.
3) Solve the equation.
4) Describe the meaning of your solution.

1) w = # of weeks
2) 7 + 3w = 2 + 4w
3) w = 5
4) After 5 weeks, they will have the same amount of money.
They will each have $22.

Story Problem (on back of handout)

- Anne, Ben, and Nate are doing push-ups. Anne does some, but Ben does 1 more than Anne. Nate does three times as much as Anne. If they do 61 pushups total, how many pushups did each person do?

a) Define a variable.

b) Set up an equation to describe this situation. Use your equation to solve the problem.

x = # of pushups Anne does

Anne = x

Ben = x + 1

Nate = 3x

(x) + (x + 1) + (3x) = 61

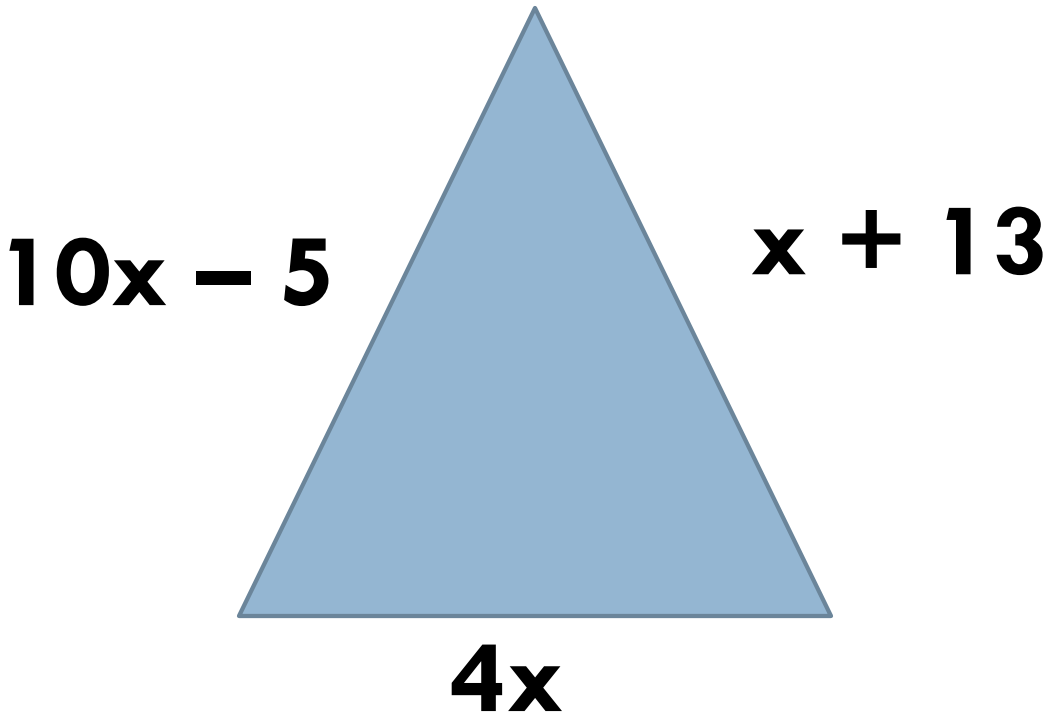
5x + 1 = 61

x = 12

Anne = 12, Ben = 13, Nate = 36

Check: 12 + 13 + 36 = 61

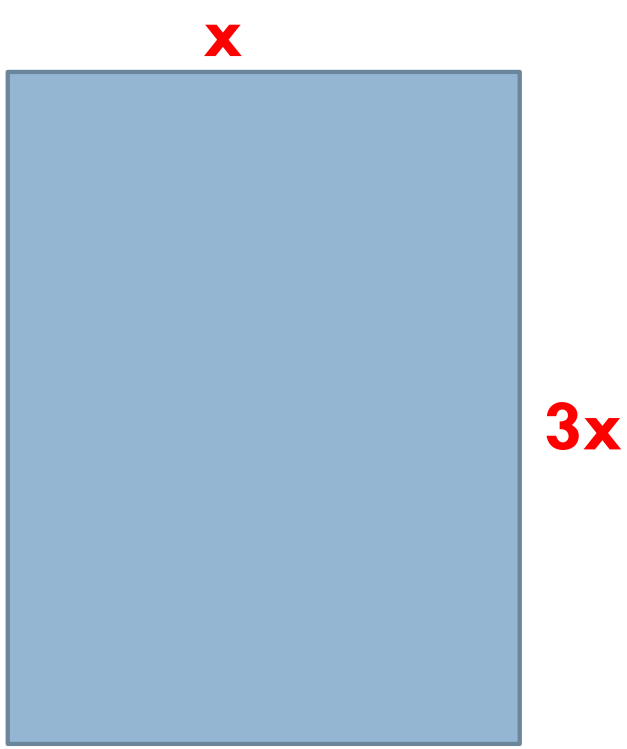
1. If the perimeter of the triangle is **38**, find the value of x.
2. Plug your solution back in to check that the perimeter is really 38.
3. Is this triangle equilateral, isosceles, or scalene?



$x = 2$

Geometry Connection

- If the perimeter of the rectangle is 48, find the length and width.



$$x + 3x + x + 3x = 48$$

or

$$2(x) + 2(3x) = 48$$

$$8x = 48$$

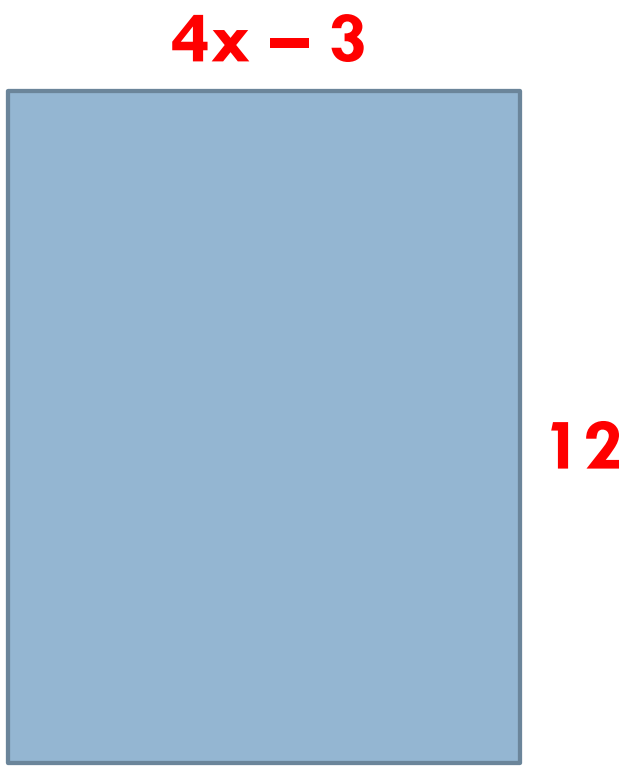
$$x = 6$$

Width = 6, Length = 18

Check: $6 + 18 + 6 + 18 = 48$

Geometry Connection

- If the area of the rectangle is **60, find the value of x. Check your answer.**



$12(4x - 3) = 60$

$48x - 36 = 60$

$48x = 96$

$x = 2$

Or divide both sides by 12 and get:

$4x - 3 = 5$

Then solve; $x = 2$

Lilly's Age

- In 16 years, Lilly will be 5 times as old as she is now. How old is Lilly now?

L = Lilly's age

L + 16 = Lilly's age in 16 years

(Lilly in 16 years) = 5(Lilly right now)

L + 16 = 5L

L = 4

Lilly is 4.