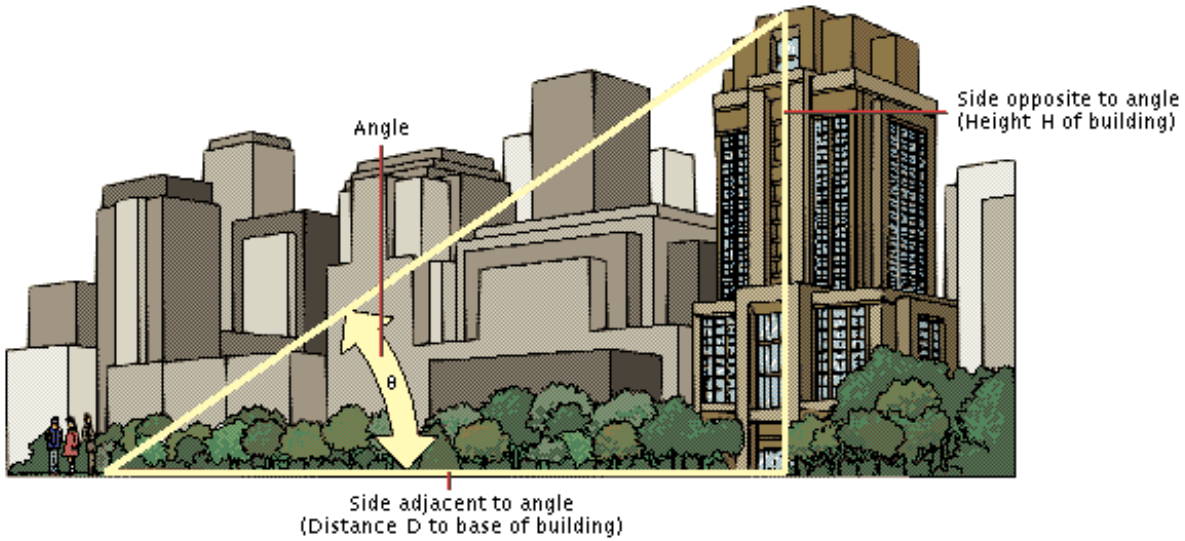
STUDY GUIDE FOR TRIG.

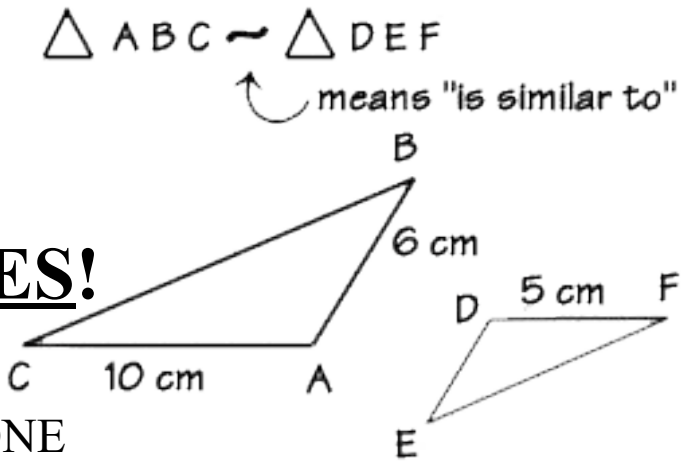


FOR TUESDAY'S TEST

IN MRS. GOODHUE'S CLASS!

BY: MRS. CAMUTO

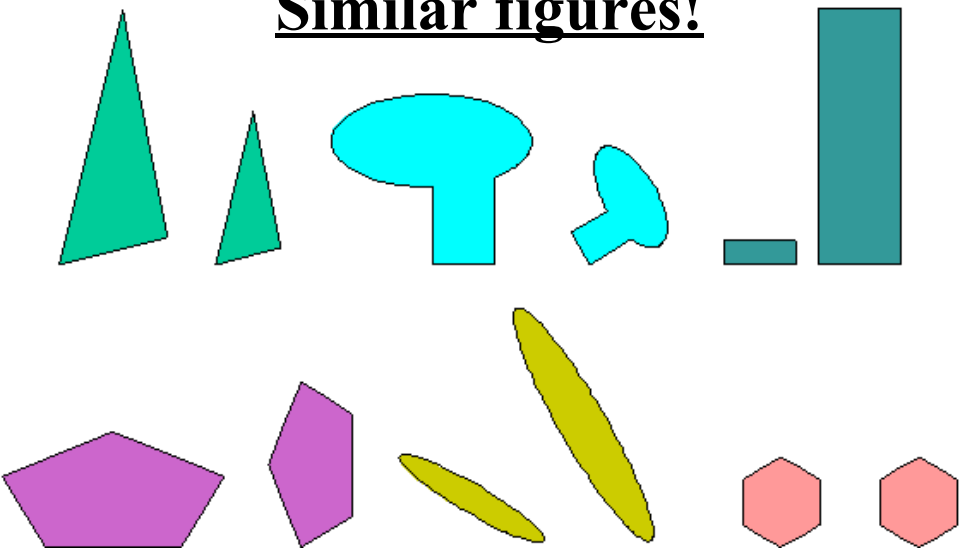
SIMILAR FIGURES!



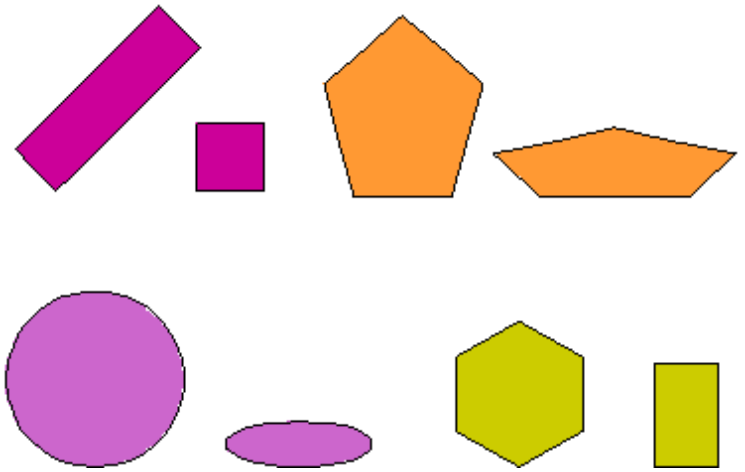
- **SAME SHAPE / DIFFERENT SIZES!**

- SIDES OF THE FIGURES ARE IN PROPORTION TO ONE ANOTHER –
- THEREFORE, **YOU CAN USE PROPORTIONS AND CROSS - MULTIPLICATION** TO FIND THE MEASURE OF A MISSING SIDE.

Similar figures!



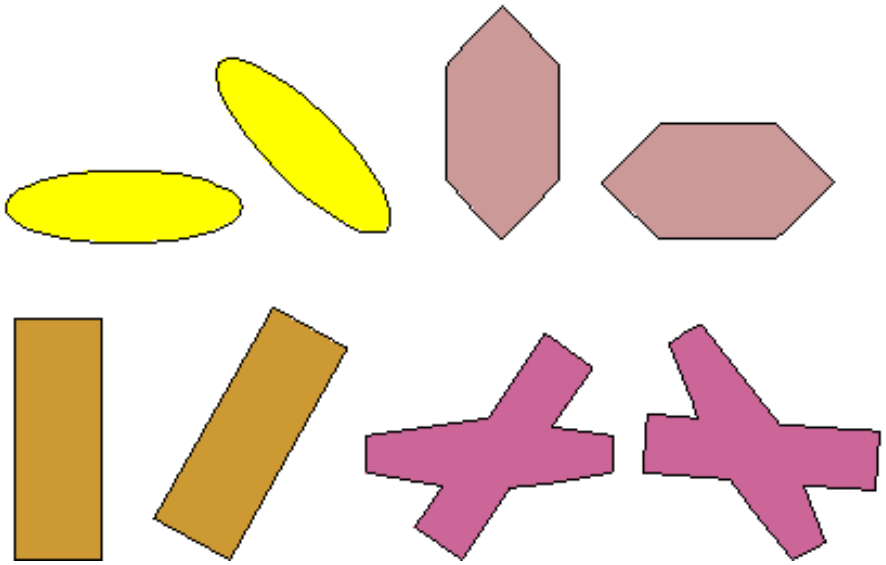
Figures that are NOT similar!



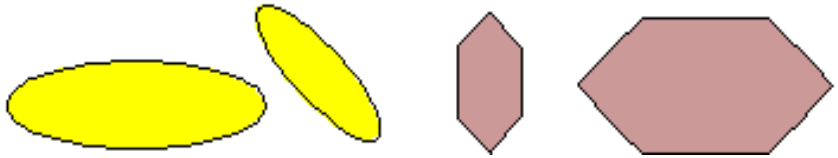
CONGRUENT FIGURES

- **SAME SHAPE / <u>SAME SIZE</u>!**
- SIDES OF THE FIGURES AND ANGLES ARE EQUAL TO EACH OTHER!
- SIMPLY MATCH CORRESPONDING SIDES OR ANGLES AND YOU CAN DETERMINE MISSING MEASUREMENTS!

<u>Congruent figures!</u>



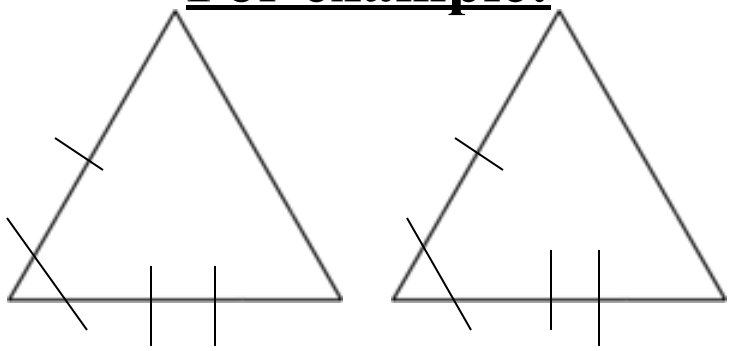
<u>Similar but NOT CONGRUENT!</u>

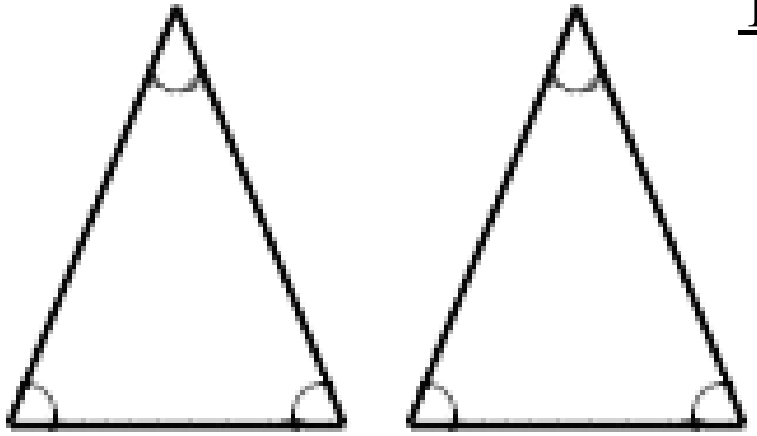


RULES FOR CONGRUENT TRIANGLES!

- **HOW TO PROVE TRIANGLES ARE CONGRUENT**!
- **4 ways you CAN USE:**
- 1.) S A S (side, angle, side)
- 2.) A S A (angle, side, angle)
- 3.) S A A (side, angle, angle)
- 4.) S S S (side, side, side)

For example:





TWO WAYS WHICH ARE NO GOOD!

CAN'T USE:

AAA (angle, angle, angle)

or

ASS (angle, side, side)

KNOW YOUR FORMULAS!

- **REMEMBER -** **SOHCAHTOA**

  or you can use:

- **Some Old Horse**
- **Caught Another Horse**
- **Taking Oats Away**

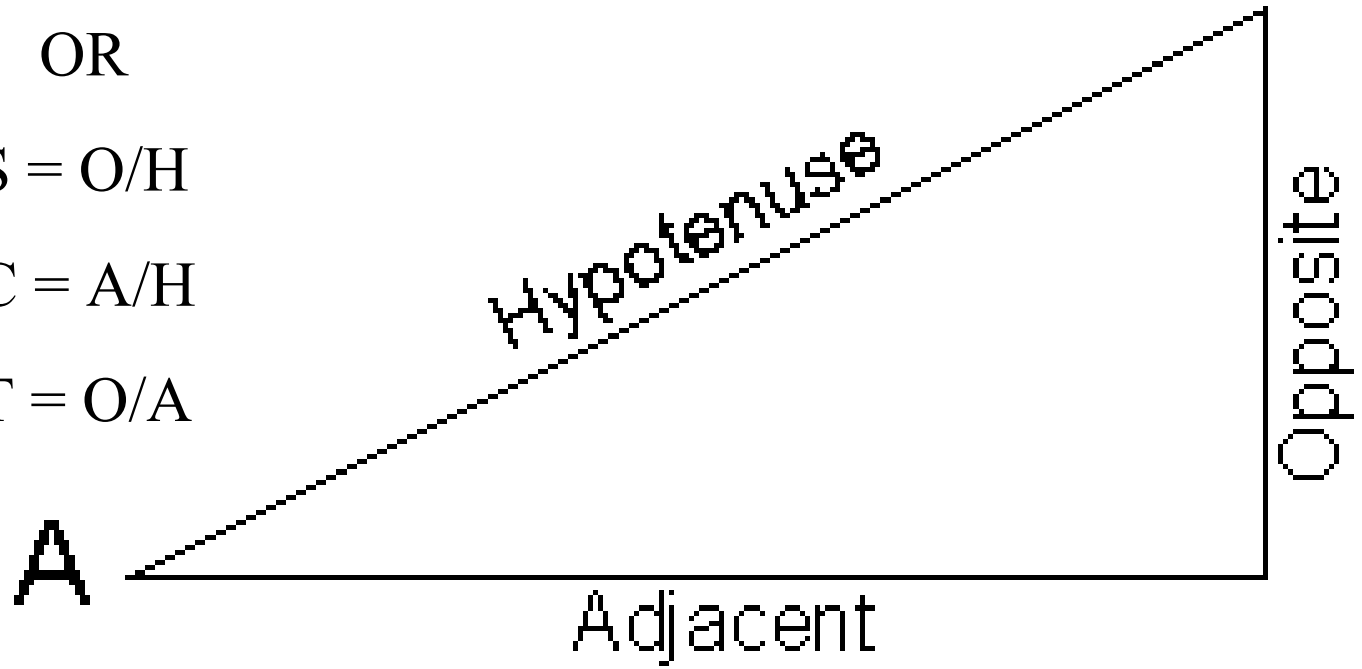
Sin(A) = Opposite/Hypotenuse
Cos(A) = Adjacent/Hypotenuse
Tan(A) = Opposite/Adjacent

OR

S = O/H

C = A/H

T = O/A



BE ABLE TO SOLVE TRIG. PROBLEMS!

- KNOW AND FOLLOW THE STEPS!

1.)First, the triangle MUST BE a RIGHT triangle.

2.)Label the hypotenuse, opposite, and adjacent sides of the triangle.

3.)Decide which side you don't need and which formula you will use!

4.)Write down the formula.

5.)Substitute your given angles and sides into the formula.

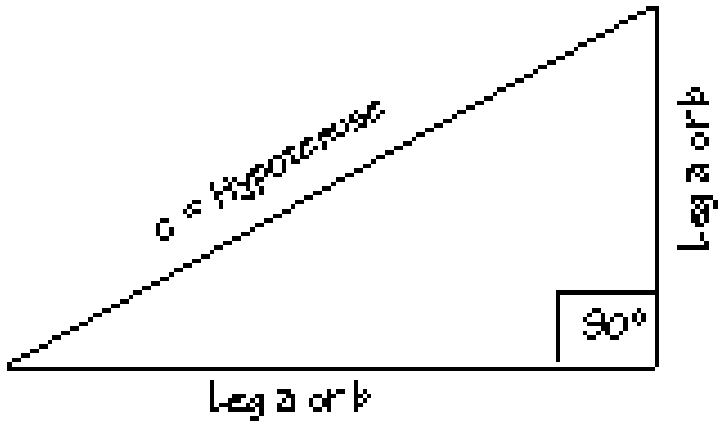
6.)Look up your angle on your Trig. Chart (you will find a decimal and a four digit number.)

7.)Put your angle measure over one!

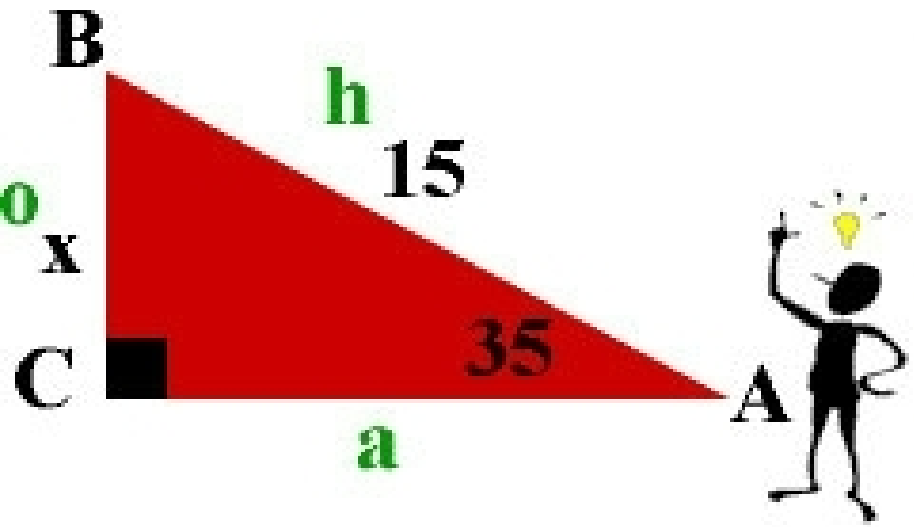
8.)Cross multiply

9.)If the X is on the top of the fraction, you will be done.

10.)If the X is on the bottom of the fraction, you will need to go one more step and divide by the decimal! (Remember, you want to get X alone!)



AN EXAMPLE OF A TRIG. PROBLEM!



- SINE = OPPOSITE / HYPOTENUS

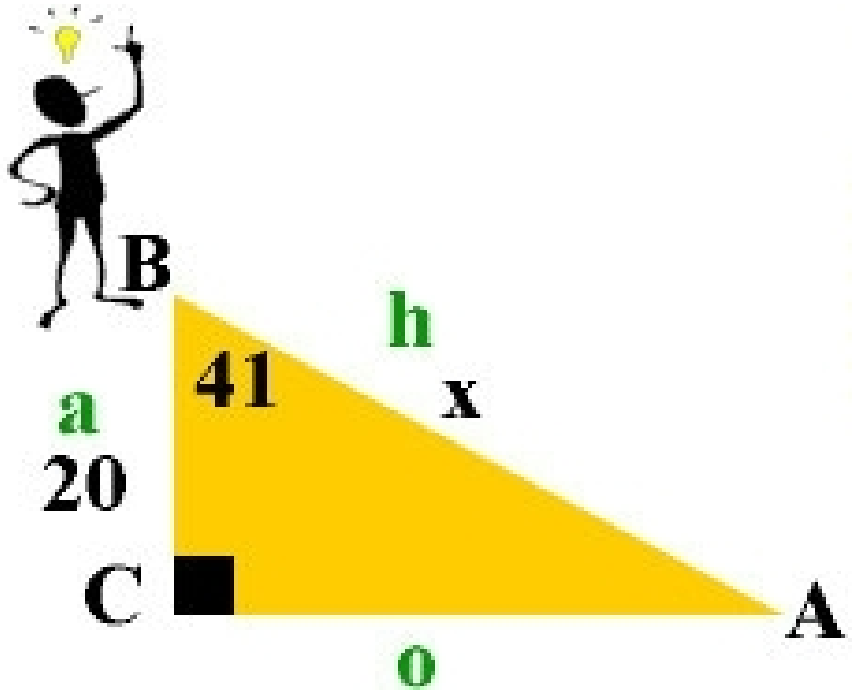
SINE 35 = X / 15

.5736 = X / 15

1

X = 8.604 units

ONE OTHER TYPE OF TRIG. PROBLEM!



COSINE = $\frac{\text{ADJACENT}}{\text{HYPOTENUSE}}$

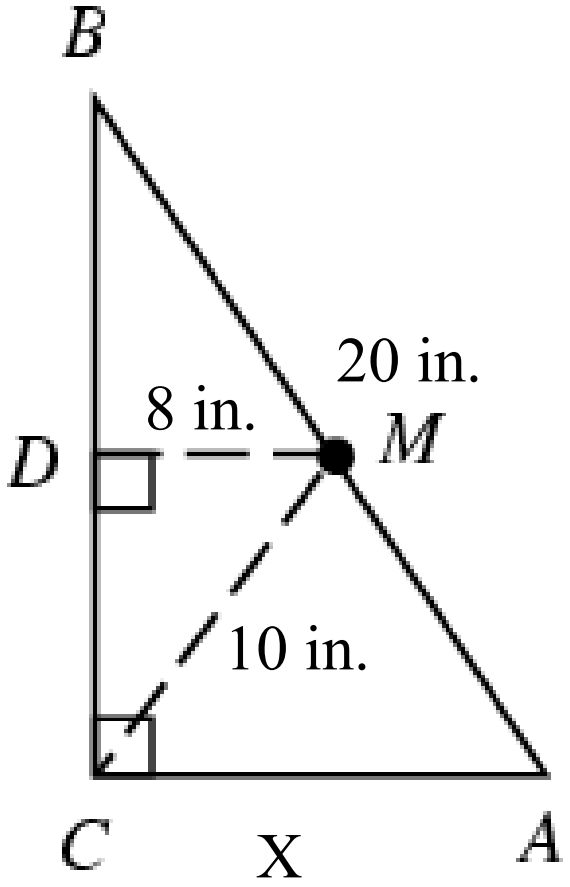
COS 41 = $\frac{20}{X}$

$\frac{.7547}{1} = \frac{20}{X}$

$\frac{.7547X}{.7547} = \frac{20}{.7547}$

X = 26.5 units

WHEN YOU HAVE TWO RIGHT TRIANGLES AND NO ANGLES, USE PROPORTIONS!



$$\frac{8}{10} = \frac{X}{20}$$

$$\frac{160}{10} = \frac{10X}{10}$$

$$X = 16$$