AGENDA ⇨

WED 2/5

0:00:00

TO-DO

1) We're going straight to notes

REMINDERS

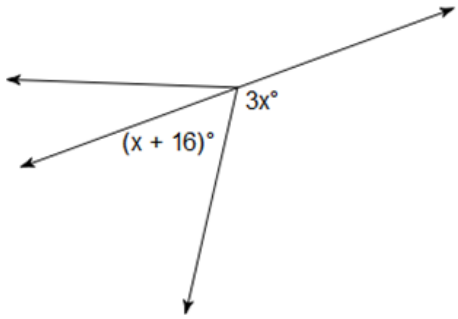
ALL electronics should be put away in your **BAG!**

> Unit 2A Quiz 1 on **FRIDAY**

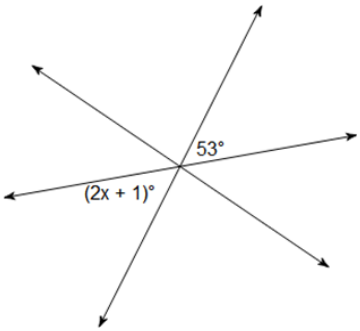
Jul 31-9:37 PM

1) $\angle 1$ and $\angle 2$ are complementary angles. If m$\angle 1$ = 5x - 9 and m$\angle 2$ = 10x - 6. What are the measures of the two angles?

2) Solve for x.

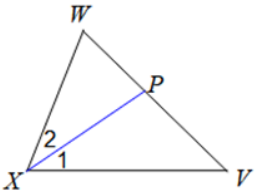


3) Solve for x.



4) The figure shows a triangle with one of its angle bisectors.

Find $m\angle 2$ if $m\angle 2 = 3x + 7$ and $m\angle 1 = 4x - 2$.



What am I learning today?

Learning Objective 2A.2

How to explain and use the characteristics of equilateral and isosceles triangles.

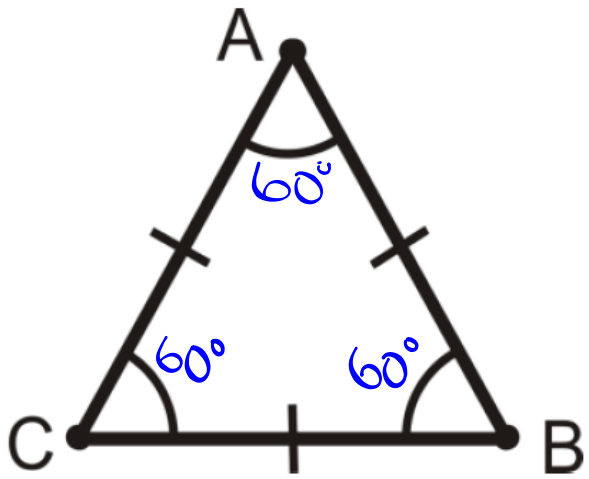
Jul 31-6:18 PM

What will I do to show that I have learned it?

I can...Use congruent sides and angles in equilateral triangles and the base angle theorem in isosceles triangles.

Jul 31-6:18 PM

Equilateral Triangle - A triangle with 3 congruent **SIDES** and **ANGLES**

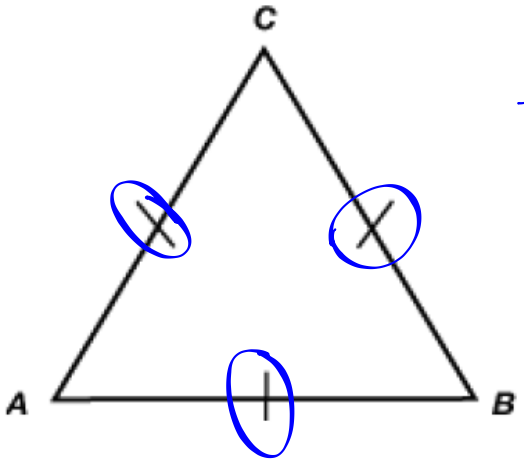


EACH ANGLE MEASURE IS:

$\frac{180°}{3} = 60°$

Oct 1-4:13 PM

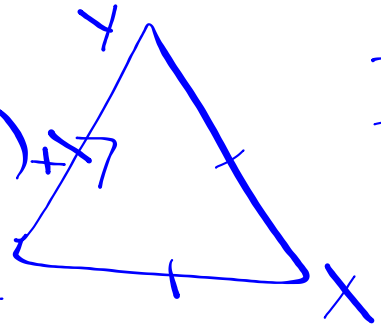
1. If AB = 2x + 3 and AC = 3x - 7, solve for x?



$2x + 3 = 3x - 7$
$-2x \qquad -2x$
$3 = x - 7$
$+7 \qquad +7$
$\boxed{10 = x}$

Jan 28-5:13 PM

2. If ΔZYX is an equilateral triangle, ZY = -x + 7 and YX = 3x - 9, what is the length of XZ?



$-x + 7 = 3x - 9$
$+x \qquad +x$
$7 = 4x - 9$
$+9 \qquad +9$
$\frac{16}{4} = \frac{4x}{4}$
$4 = x$

$\boxed{XZ = -(4) + 7 = 3}$

$ZY \cong YX \cong XZ$

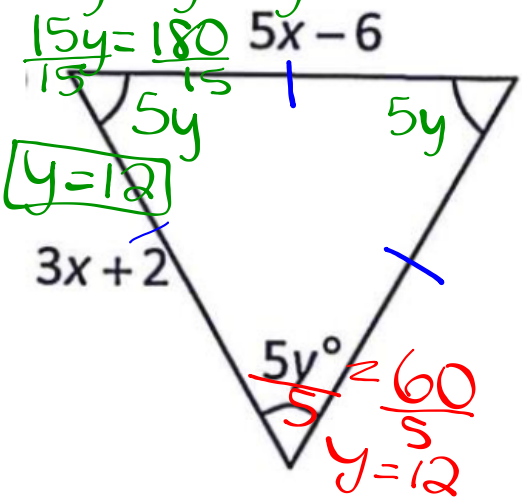
Jan 28-5:14 PM

3. Solve for x and y.

$5y+5y+5y=180$

$\frac{15y}{15}=\frac{180}{15}$

$\boxed{y=12}$



$\frac{5y}{5}=\frac{60}{5}$

$y=12$

$y=12$

$x=4$

$5x-6=3x+2$

$-3x \quad -3x$

$2x-6=2$

$+6 \quad +6$

$\frac{2x}{2}=\frac{8}{2}$

$x=4$

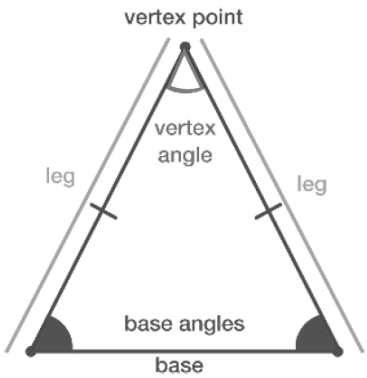
Jan 28-5:16 PM

Isosceles Triangle - A triangle with 2 congruent **SIDES** and **ANGLES**

Legs - The congruent **SIDES** of an isosceles triangle.

Base - The **non-congruent** side of an isosceles triangle

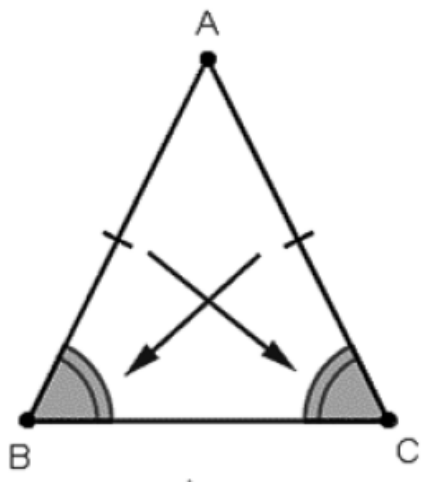
Base Angles - The congruent angles opposite of the **LEGS**



Jan 28-5:17 PM

Isosceles Triangle Theorem

If two sides of a triangle are congruent, then **the angles opposite of the sides are congruent.**

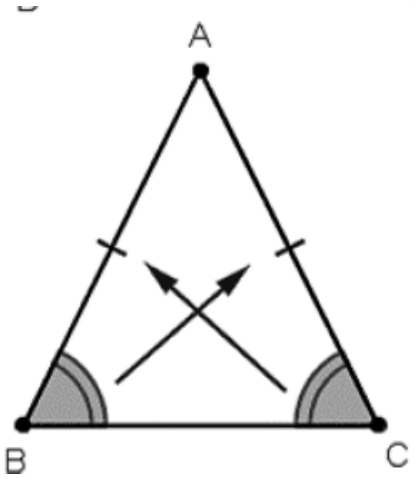


Jan 28-5:20 PM

Converse Isosceles Triangle Theorem

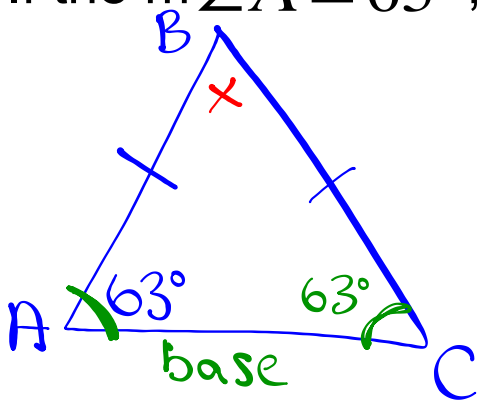
Reverse

If two angles of a triangle are congruent, then **the sides opposite of the sides are congruent.**



Jan 28-5:20 PM

1. ΔABC is an isosceles with legs AB and BC. If the m$\angle A = 63°$, what is the m$\angle B$?



$180 = 63 + 63 + x$

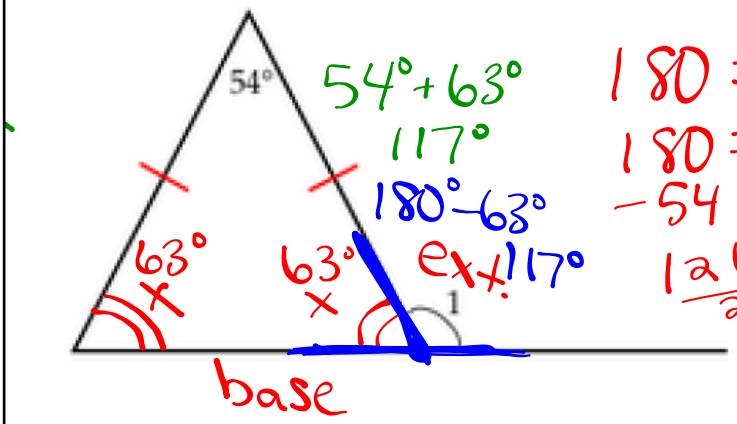
$180 = 126 + x$

$-126 \quad -126$

$54° = x$

Jan 28-5:25 PM

2. Solve for m$\angle 1$



$54° + 63°$

$117°$

$180° - 63°$

ex: $117°$

$180 = 54 + x + x$

$180 = 54 + 2x$

$-54 \quad -54$

$\frac{126}{2} = \frac{2x}{2}$

$63° = x$

Jan 28-5:27 PM

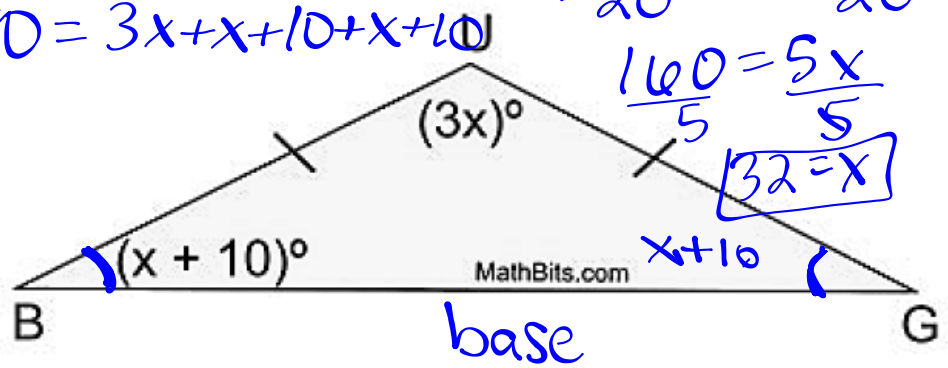
3. Solve for x.

$180 = 3x + x + 10 + x + 10$

$180 = 5x + 20$
$-20 \quad -20$

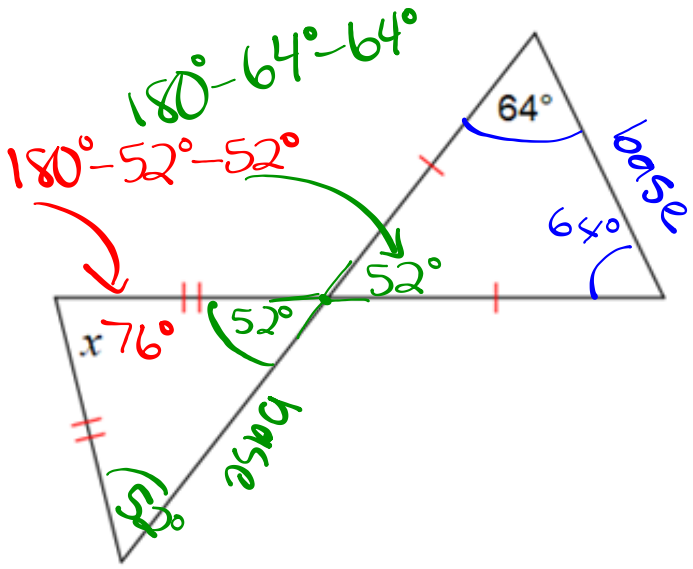
$\frac{160}{5} = \frac{5x}{5}$

$\boxed{32 = x}$

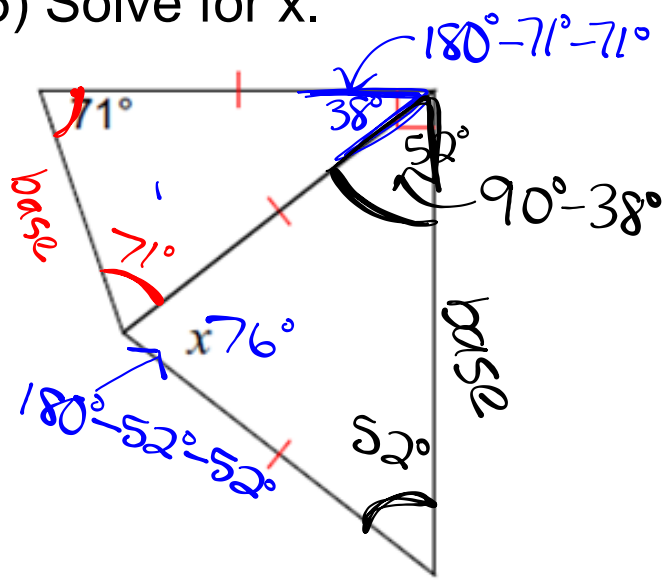


Jan 28-5:28 PM

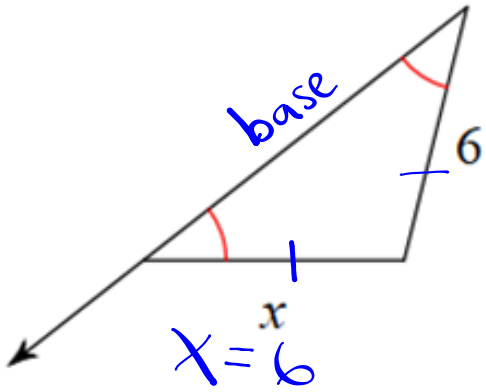
4) Solve for x



5) Solve for x.



6) Solve for x.



Classwork:

Actively working

Complete the classwork by using isosceles and equilateral characteristics.

HW: Finish the classwork

Jul 31-9:12 PM