Math Today

1. Please get a laptop and Log On.

2. Place your computer off to the side.

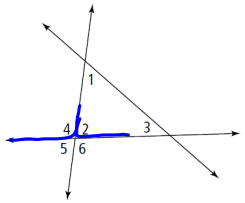
3. Get the 11.4 Notes " Exterior Angles of Triangles" off the front table.

4. We will take 11.4 Notes together and then you will have time to work on your homework.

5. **HOMEWORK = 11.4 Online Digits**

Launch

State how the sum of the measures of angles 1, 2, and 3 compares to the sum of the measures of angles 4, 5, and 6. You cannot use a protractor. Justify your reasoning.



$\angle 1+\angle 2+\angle 3=180°$
$\angle 3, \angle 6$ Alt Int.
$\angle 5=\angle 2$ Vert.
$\angle 4=\angle 6$ Vert
$\angle 4, \angle 1$ Alt Int.
$\angle 4+\angle 2=180°$
$\angle 5+\angle 6=180°$
$\angle 6+\angle 2=180°$
$\angle 4+\angle 5=180°$

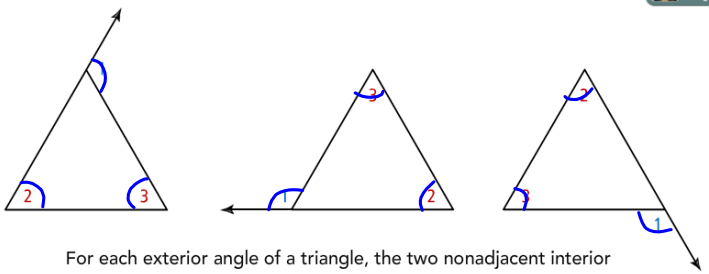
Reflect

Would using a protractor make this problem easier? Explain.

Intro

An **exterior angle of a triangle** is an angle formed by a side and an extension of an adjacent side.

Andie Says!

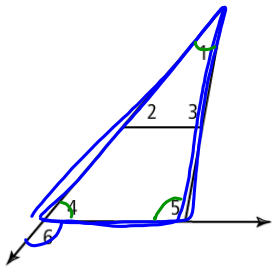


For each exterior angle of a triangle, the two nonadjacent interior angles are its **remote interior angles**.

3. Complete the Part 1 Got It.

Got It?

Which are the two remote interior angles of $\angle 6$?



$\angle 1, \angle 5$

4. Study the Key Concept Information.

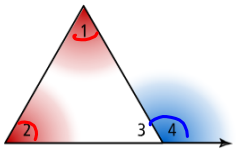
The measure of an exterior angle of a triangle equals the sum of the measures of its two remote interior angles.

$m\angle 1 + m\angle 2 + m\angle 3 = 180°$ because the sum of the measures of the interior angles of a triangle equals 180°.

$m\angle 3 + m\angle 4 = 180°$ because $\angle 3$ and $\angle 4$ form a straight angle.

$m\angle 1 + m\angle 2 + m\angle 3 = m\angle 3 + m\angle 4$, by substitution.

$m\angle 1 + m\angle 2 = m\angle 4$, by subtraction.

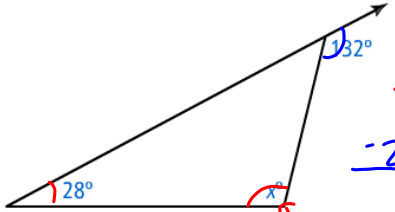


RIL + RIL = EL

5. Complete the Part 2 Got It.

Got It?

What is the value of x?



$28 + x = 132$

$-28 \quad -28$

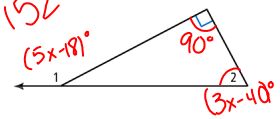
$x = 104°$

6. Complete the Part 3 Got It.

Got It?

Given $m\angle 1 = (5x - 18)°$ and $m\angle 2 = (3x - 40)°$, what is $m\angle 1$?

$= 152°$



$5x - 18 = 90 + 3x - 40$

$+40 \quad +40$

$5x + 22 = 90 + 3x$

$-22 \quad -22$

$5x = 68 + 3x$

$-3x \quad -3x$

$2x = 68$

$\frac{2}{2} \quad \frac{2}{2}$

$x = 34$

$5x - 18$

$5(34) - 18$

$170 - 18$

$152°$

7. Homework Help.....

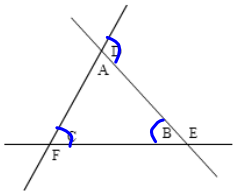
Determine the following:

1. Which of the labeled angles are exterior angles?

   ∠F, ∠E, ∠D

2. What are the two remote interior angles for ∠D?

   ∠C, ∠B



IL + IL = EL

HOMEWORK:

11.4 Online Digits.