

BELLWORK - Block Day, October 29th/30th

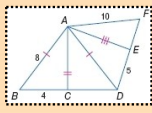
**Skill: Solve the following equations**

- $3x + 10 = 9x - 8$
- $2(x - 3) = 4x - 22$
- $\frac{2}{3}(x - 9) = -20$

**Extension:**

- Construct a diagram of a right isosceles triangle.
- Is it possible to have a right equilateral triangle?

**Concept: Classify each triangle.**



- $\triangle AEF$
- $\triangle ACD$
- $\triangle ABD$

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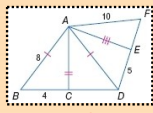
**Skill: Solve the following equations**

- $3x + 10 = 9x - 8$   
*Handwritten:  $x=6$*
- $2(x - 3) = 4x - 22$   
*Handwritten:  $x=3$*
- $\frac{2}{3}(x - 9) = -20$   
*Handwritten:  $2x - 6 = -20 \rightarrow 2x = -14 \rightarrow x = -7$*

**Extension:**

- Construct a diagram of a right isosceles triangle.  
*Handwritten:  $x=8$*
- Is it possible to have a right equilateral triangle?  
*Handwritten:  $x=2$*

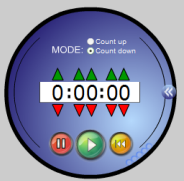
**Concept: Classify each triangle.**



- $\triangle AEF$  *Scalene*
- $\triangle ACD$  *Scalene*
- $\triangle ABD$  *Isosceles*

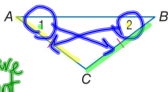
16. Acute	28. Isosceles
18. Equiangular	30. Scalene
20. Right	32. Isosceles
22. Right	34. Scalene
24. Acute	36. $x = 7, AB = 7$ $BC = 7, CA = 4$
26. Equiangular	37. $x = 3, FG = GH = HF = 19$

38. #1: right scalene; #2: right scalene; #3: obtuse scalene  
#4: acute isosceles; #5: right scalene; #6: obtuse scalene

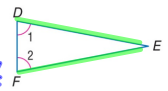


**Theorems Isosceles Triangle**

**4.10 Isosceles Triangle Theorem**  
If two sides of a triangle are congruent, then the angles opposite those sides are congruent.  
*Handwritten: across*  
**Example** If  $\overline{AC} \cong \overline{BC}$ , then  $\angle 2 \cong \angle 1$ . *base  $\angle$ s are congruent*

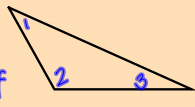


**4.11 Converse of Isosceles Triangle Theorem**  
If two angles of a triangle are congruent, then the sides opposite those angles are congruent.  
**Example** If  $\angle 1 \cong \angle 2$ , then  $\overline{FE} \cong \overline{DE}$ . *legs are  $\cong$*

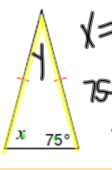


Sum of The Interior Measures of a Triangle:

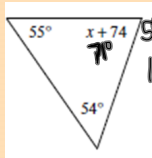
Triangle Angle Sum Thm.  
The sum of the interior angles of a triangle is 180°.




$m\angle 1 + m\angle 2 + m\angle 3 = 180$



$x = 75^\circ$   
 $75 + 75 + y = 180$   
 $y = 30^\circ$



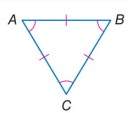
$55 + 54 + (x + 74) = 180$   
 $109 + x + 74 = 180$   
 $183 + x = 180$   
 $x = -3$



**Corollaries Equilateral Triangle**

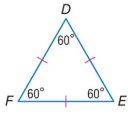

4.3 A triangle is equilateral if and only if it is equiangular.

**Example** If  $\angle A \cong \angle B \cong \angle C$ , then  $\overline{AB} \cong \overline{BC} \cong \overline{CA}$ .

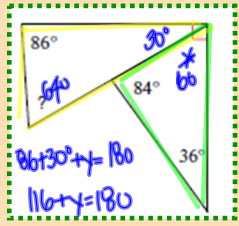


\*4.4 Each angle of an equilateral triangle measures 60.

**Example** If  $\overline{DE} \cong \overline{EF} \cong \overline{FE}$ , then  $m\angle A = m\angle B = m\angle C = 60$ .

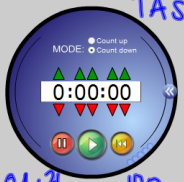

**PARTNER PRACTICE!**



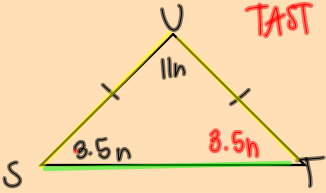

$86 + 30 + x = 180$   
 $116 + x = 180$   
 $x = 64^\circ$

$84 + 36 + x = 180$   
 $120 + x = 180$   
 $x = 60$

**TAST**

**TAST**

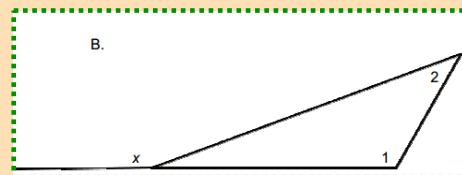
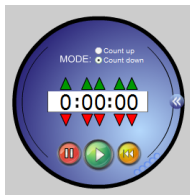
### Exterior Angles Investigation

How are we working?  
Partners

What does this look like?  
- Whisper

- Stay on task

- Raise your hand for help



#### Exterior Angles Theorem:

The sum of the remote interior angles is congruent to the exterior angle.

