NAME:_____ Math ____, Period _____

Mr. Rogove Date:_____

Learning Objective: We will apply everything we know to find missing angle measurements. . (G8M2L11a)

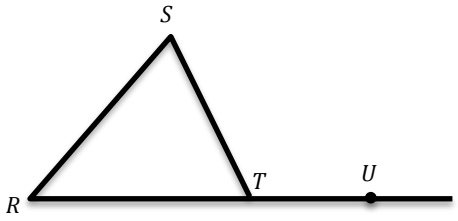
Concept Development:

We know many things about angle measurements:

1. A straight line is 180 degrees

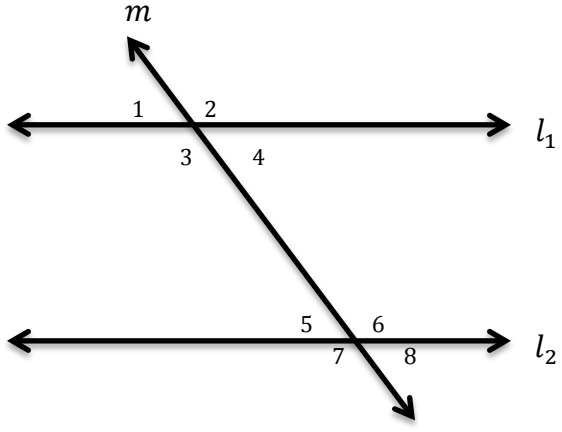
2. The interior angles of a triangle add up to 180 degrees.

3. the exterior angle of a triangle is equal to the sum of the two remote interior angles of the triangle.



4. When two lines intersect, the **vertical angles** are congruent.

5. When you have two parallel lines cut by a transversal the following are true:
   a. **Corresponding angles** are congruent.
   b. **Alternate interior angles** are congruent.
   c. **alternate exterior angles** are congruent.



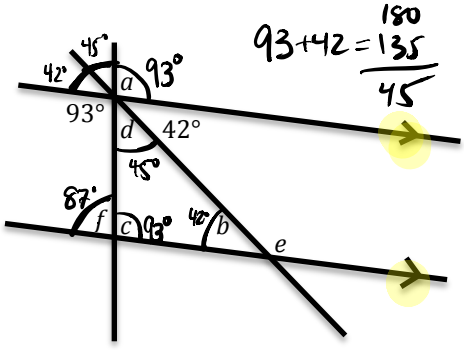
NAME:_____ Math ____, Period _____

Mr. Rogove Date:_____

Guided Practice:

Steps for Finding Missing Angle Measures

1. Look for triangles, straight lines, parallel lines, and other things that can help you find missing angle measures.
2. Use the facts we have learned about triangles and parallel lines to find the missing angle measures.



$a = 93°$ (vertical angles)

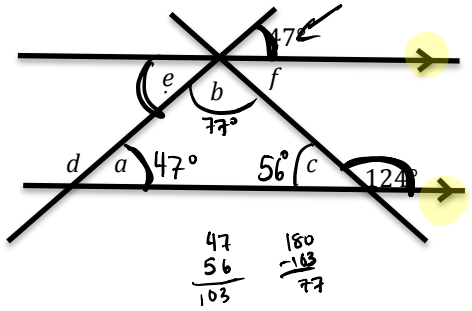
$b = 42°$

$c = 93°$ (∠a & ∠c corresponding)

$d = 45°$

$e = 138°$ ∠b+∠e = 180°

$f = 87°$ ∠f+∠c = 180°



$a = 47°$

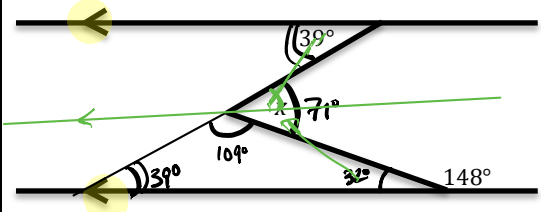
$b = 77°$

$c = 56°$ ∠c + 124 = 180

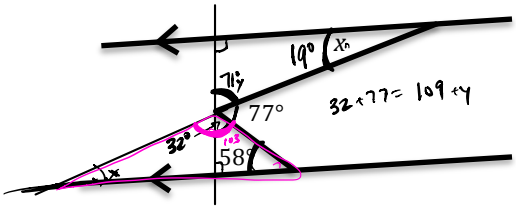
$d = 133°$ ∠a+∠d = 180

$e = 47°$ ∠e ≅ ∠a Alt. Int ∠s

$f = 56°$ ∠c ≅ ∠f Alt. Int ∠s



① EXTEND LINE TO CREATE ∠ AND TRANSVERSAL

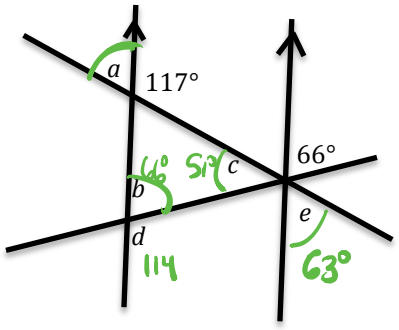


x = 180 − (103+58)

NAME:_____ Math ____, Period _____

Mr. Rogove Date:_____

Independent Practice:



$a =$ 63°

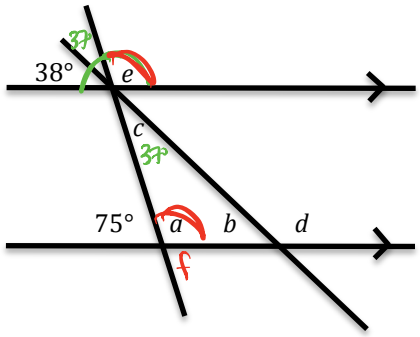
$b =$ 66°

$c =$ 51°

$d =$ 114°

$e =$ 63°

∠a ≅ ∠e
Alt. Ext. Angles.



$a =$ 105°

$b =$ 38°

$c =$ 37°

$d =$ 142°

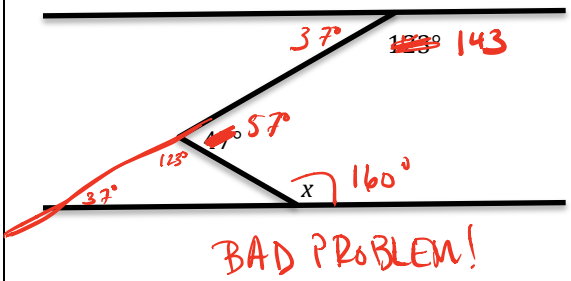
$e =$ 105°

$f =$ 75°

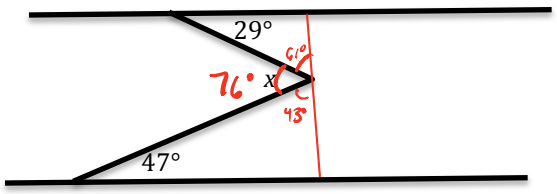
∠a ≅ ∠e Corresponding

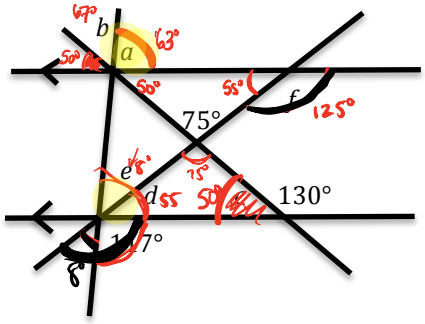
NAME:_____ Math ____, Period _____

Mr. Rogove Date:_____



BAD PROBLEM!





$\measuredangle a = 63°$

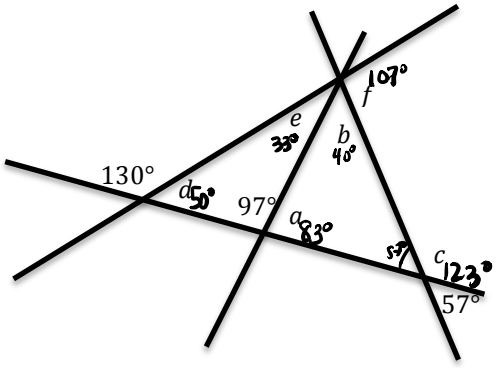
$\measuredangle b = 67°$

$\measuredangle c = 50°$

$\measuredangle d = 55°$

$\measuredangle e = 8°$

$\measuredangle f = 125°$



NAME:_____ Math _____, Period _____

Mr. Rogove Date:_____

Activating Prior Knowledge:

Review triangle sum theorem.

Closure: