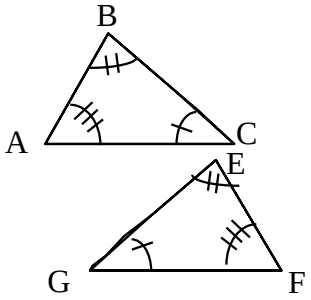
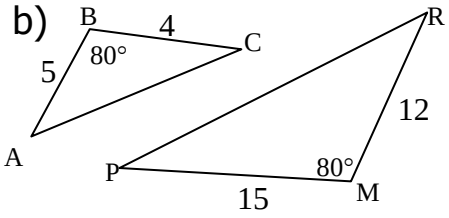
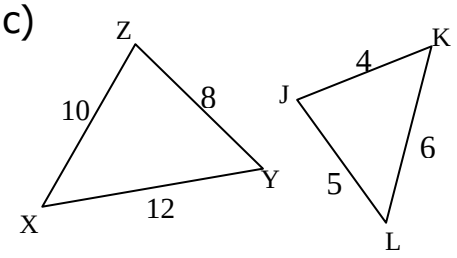
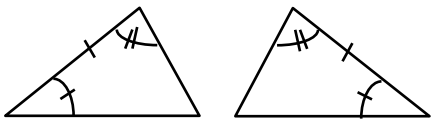
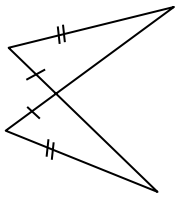
IM 2 Unit 2 Review Name _____ Period _____

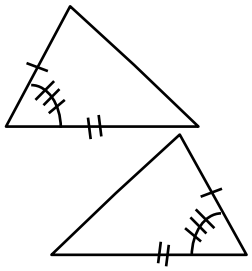
1. Determine if the pair of triangles are **<u>similar</u>**. (circle yes or no) **If** they are similar state the <u>similarity conjecture</u> (SSS, SAS, or AA) that makes the pair of triangles similar and write the correct similarity statement.

a)	b)	c)
		
YES or NO	YES or NO	YES or NO
Reason:_____	Reason:_____	Reason:_____
ΔCAB ~_____	ΔABC ~_____	ΔZXY ~_____

2. State the triangle congruence property that makes the pair of triangles **<u>congruent</u>**. If they are not necessarily congruent, write "not ≅" for the answer.

a. 

b. 

c. 

3. What do we know about the length of the third side of a triangle if the other two sides are:

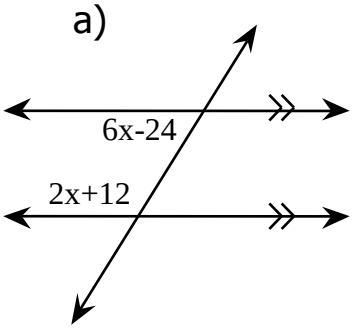
a. 5 inches and 12 inches b. 11 inches and 21 inches

Check Answers #1-4	$ASA \cong$	60	◁ PMR	not ≅	SAS~	▷ JLK	$7 < x < 17$	50	24
SSS~	99 yes	21 yes	AA~	◁ GFE	$10 < x < 32$	$SAS \cong$	$\frac{182}{11}$	yes	
Parallel lines, alternate interior angles are congruent		Triangle Angle Sum Theorem			Parallel lines, same side interior angles are supplementary				
Triangle Angle Sum Theorem		Exterior Angle Theorem			Vertical Angles are congruent				

≅

4. For each diagram find the value of x. Show your work! Justify your work using vocabulary words.

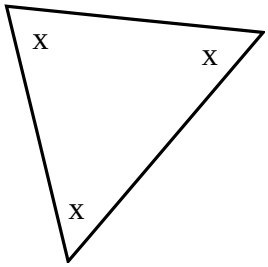
a)



X=_____

Reason_____

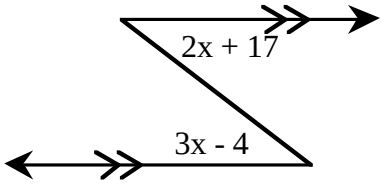
b)



X=_____

Reason_____

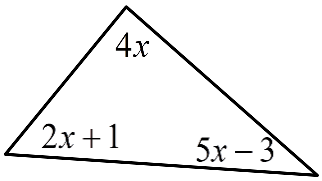
c)



X=_____

Reason_____

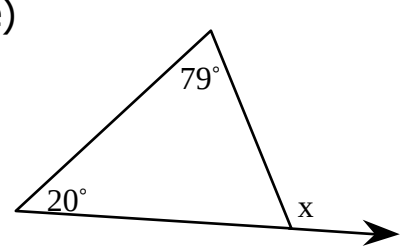
d)



X=_____

Reason_____

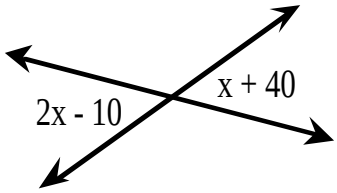
e)



X=_____

Reason_____

f)

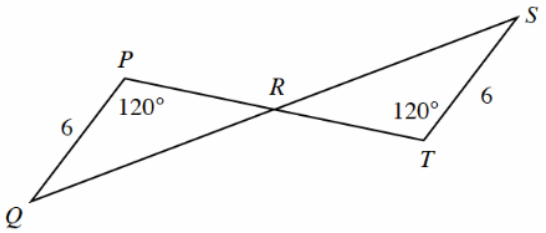


X=_____

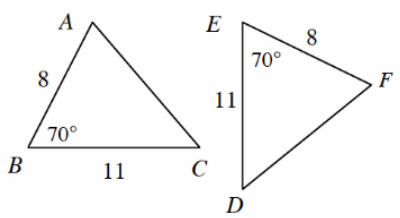
Reason_____

5. Complete the congruency statement.

a) $\Delta PQR \cong$ _____



b) $\Delta ABC \cong$ _____



6. Write the CONVERSE of the following conditional statement. Assume the given statement is true.

a. Conditional Statement: If a polygon is a square, then it has four equal sides.

Converse: _____

Is the converse a true statement? Circle the correct answer. YES or NO

If the converse is false, provide a counter-example:

b. Conditional Statement: If a polygon has three angles, then it is a triangle.

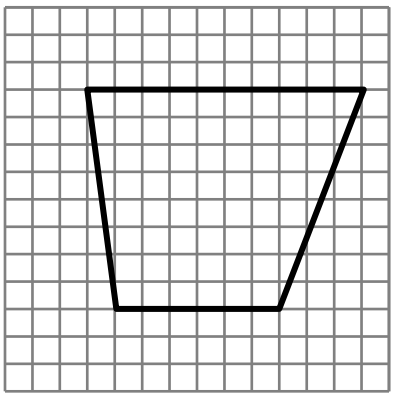
Converse: _____

Is the converse a true statement? Circle the correct answer. YES or NO

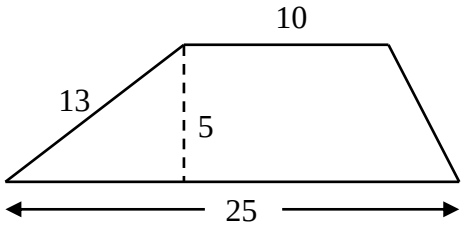
If the converse is false, provide a counter-example:

7. <u>Calculate</u> the **perimeter** and **area** of each figure. **Show all work**!

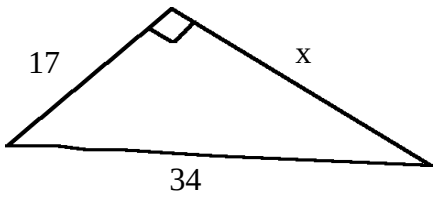
a.



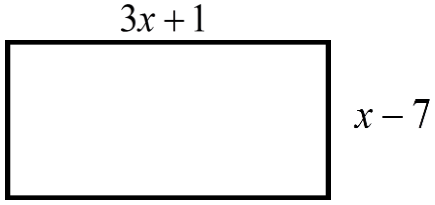
b.



8. Solve for x. Show work!



9. Find x if the perimeter of the rectangle is 76. Show work!



10. Solve the following systems of equations for x and y. Show work!

a. $6x-5y=12$
$-3x+3y=-5$

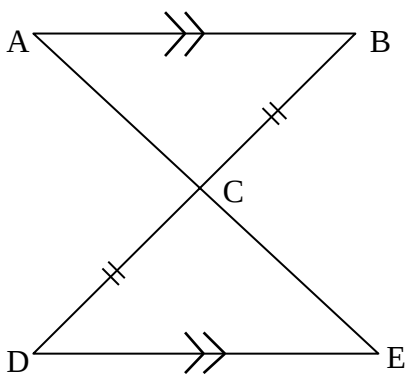
b. $4x-7y=-12$
$-x+2y=6$

11. Solve for x. Show work!

a) $2x-7=-3(x+8)$

b) $2-2(2x+9)=-5(2x-4)$

12. Write a flowchart proof to show that $AC \cong EC$



Check Answers #5-12:
6
(18, 12)
$\left(\frac{11}{3}, 2\right)$
$16+\sqrt{65}+\sqrt{73} \approx 32.61$
$-\frac{17}{5}$ or -3.4
ΔFED
$\sqrt{867} \approx 29.44$
11
ΔTSR
$87.5u^2$
$64u^2$
$48+\sqrt{34} \approx 53.83$
Yes
No
The polygon could be a rhombus.