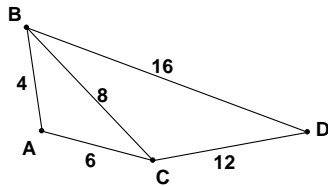


Honors Math 2 – Unit 4 Test Review

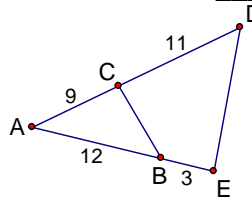
Name: \_\_\_\_\_

If the triangles in 1 – 3 can be proved similar, (1) Complete the similarity statement and (2) Tell which theorem or postulate you would use. If they cannot be proved similar then write “None.”

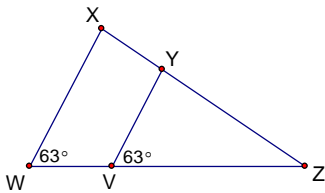
1.  $\triangle ABC \sim \triangle$  \_\_\_\_\_ by \_\_\_\_\_



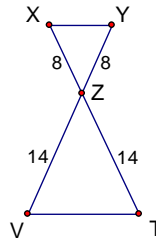
2.  $\triangle ABC \sim \triangle$  \_\_\_\_\_ by \_\_\_\_\_



3.  $\triangle YVZ \sim \triangle$  \_\_\_\_\_ by \_\_\_\_\_

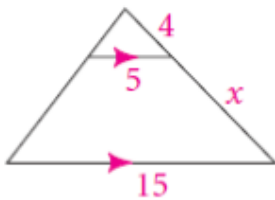


4.  $\triangle XYZ \sim \triangle$  \_\_\_\_\_ by \_\_\_\_\_

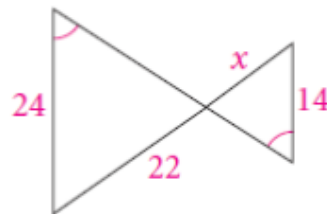


Tell why each pair of triangles is similar (AA~, SAS~, or SSS~). Then find the value of x.

5.

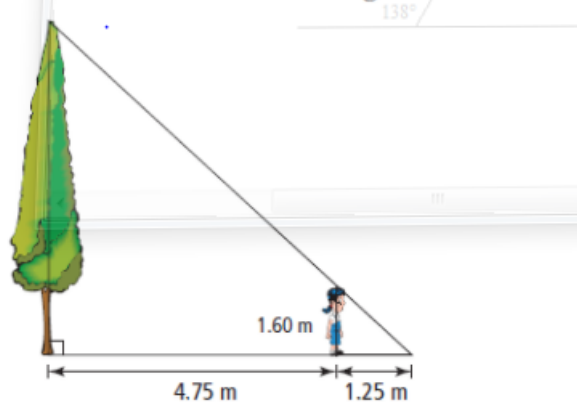


6.

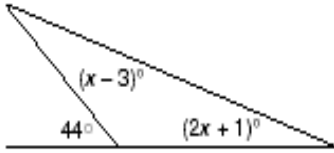


7. Answer the question below:

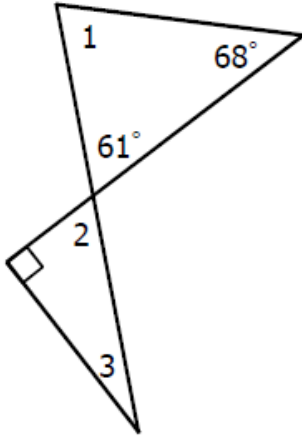
Erin, who is 1.60 m tall, casts a shadow that is 1.25 m long. Her shadow extends to the end of a tree's shadow when she stands 4.75 m from the tree. What is the height of the tree?



8. Find the value of  $x$ .



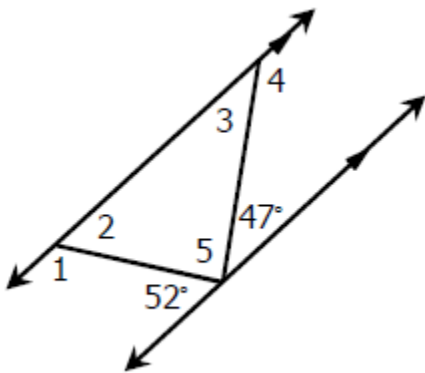
9. Solve for the missing angles:



$$m\angle 1 = \underline{\hspace{2cm}}$$

$$m\angle 2 = \underline{\hspace{2cm}}$$

$$m\angle 3 = \underline{\hspace{2cm}}$$



$$m\angle 1 = \underline{\hspace{2cm}}$$

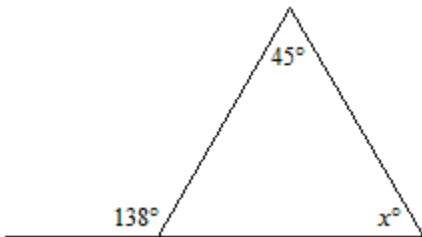
$$m\angle 2 = \underline{\hspace{2cm}}$$

$$m\angle 3 = \underline{\hspace{2cm}}$$

$$m\angle 4 = \underline{\hspace{2cm}}$$

$$m\angle 5 = \underline{\hspace{2cm}}$$

10. Using the diagram below, find the value of  $x$ .



For items 11 – 15, classify each pair of angles as corresponding, alternate interior, alternate exterior, same-side interior, vertical, or a linear pair. Then state whether they are congruent or supplementary.

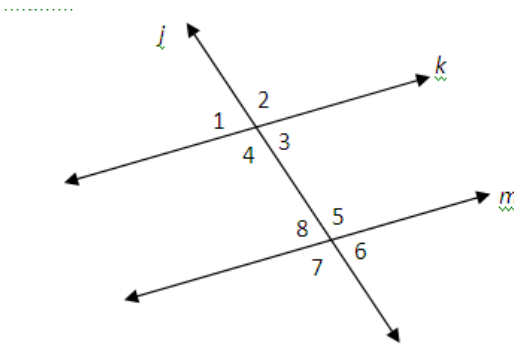
11.  $\angle 1$  and  $\angle 3$

12.  $\angle 4$  and  $\angle 8$

13.  $\angle 3$  and  $\angle 6$

14.  $\angle 8$  and  $\angle 5$

15.  $\angle 4$  and  $\angle 5$



Use the figure above for items 20 -25. In the figure, line k is parallel to line m.

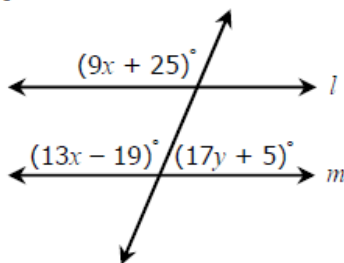
16. If  $m\angle 1 = 78^\circ$ , find  $m\angle 6$ .

17. If  $m\angle 1 = 78^\circ$ , find  $m\angle 7$ .

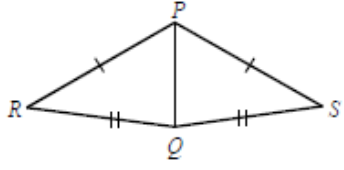
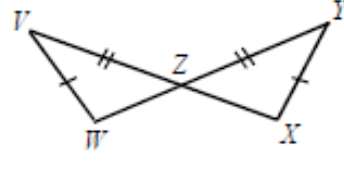
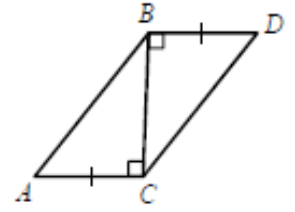
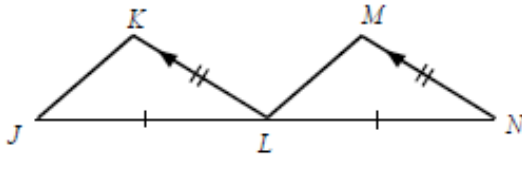
18. If  $m\angle 2 = 3x$  and  $m\angle 5 = 105$ , find the value of  $x$ .

19. If  $m\angle 3 = 2x + 15$  and  $m\angle 5 = 3x - 5$ , find  $m\angle 7$ .

20. If line l is parallel to line m, solve for x and y:

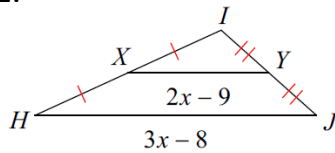


21. For part (a) determine whether the triangles are congruent and state how. If not congruent, then write "not congruent." If congruent, then write a congruency statement for part (b).

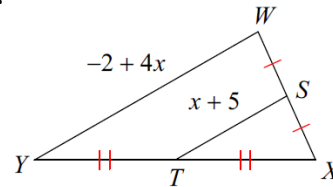
 <p>(a) _____</p> <p>(b) _____</p>	 <p>(a) _____</p> <p>(b) _____</p>
 <p>(a) _____</p> <p>(b) _____</p>	 <p>(a) _____</p> <p>(b) _____</p>

Using the diagrams below, solve for x:

22.



23.

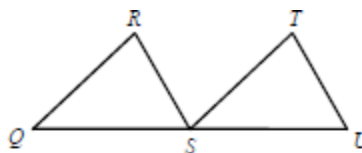


24. The measure of the vertex angle of an isosceles triangle is  $120^\circ$ , find the measure of a base angle.

25. In isosceles  $\triangle PQR$ ,  $\angle P$  is the vertex angle. If  $PQ = 8x - 3$  and  $PR = 2x + 15$ . Find x.

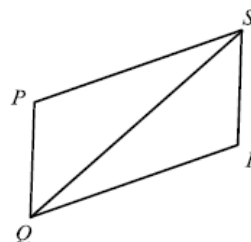
26. Complete the following two-column proofs:

**Given:**  $S$  is the midpoint of  $\overline{QU}$ ,  $\overline{QR} \cong \overline{ST}$ ,  $\overline{RS} \cong \overline{TU}$   
**Prove:**  $\triangle QRS \cong \triangle STU$



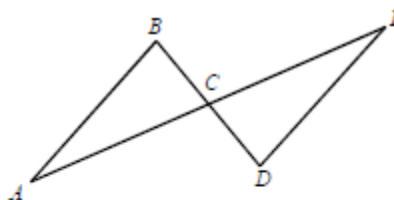
Statements	Reasons
1.	1.
2.	2.
3.	3.
4.	4.
5.	5.

**Given:**  $\overline{PS} \parallel \overline{QR}$ ,  $\angle QPS \cong \angle SRQ$   
**Prove:**  $\overline{PQ} \cong \overline{RS}$



Statements	Reasons
1.	1.
2.	2.
3.	3.
4.	4.
5.	5.
6.	6.

**Given:**  $\angle BAC \cong \angle DEC$ ,  $C$  is the midpoint of  $\overline{AE}$   
**Prove:**  $\triangle ABC \cong \triangle EDC$



Statements	Reasons
1.	1.
2.	2.
3.	3.
4.	4.
5.	5.

27. Solve for the missing angles:

