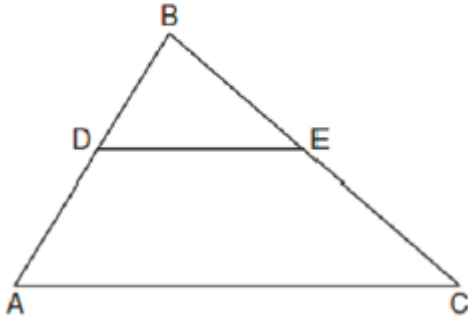
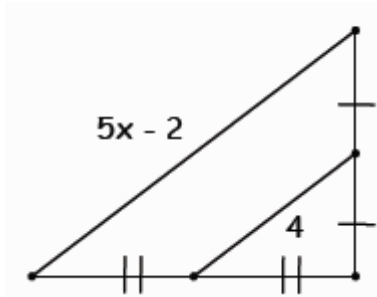


Station 1: Midsegment

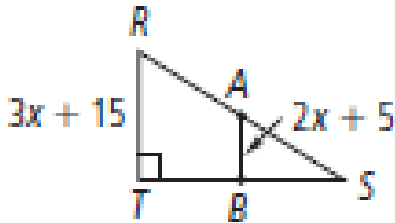
1. In the diagram below of $\triangle ABC$, \overline{DE} is a midsegment of $\triangle ABC$, $DE = 7$, $AB = 10$, and $BC = 13$. Find the perimeter of $\triangle ABC$.



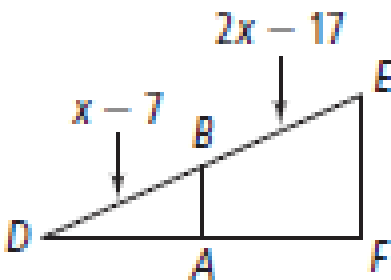
2. Solve for x in the figure below



3. Solve for x if AB is a midsegment.



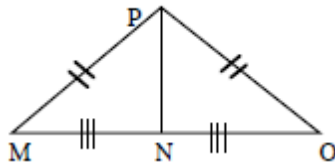
4. Solve for x if AB is a midsegment.



Station 2: Congruent Triangles

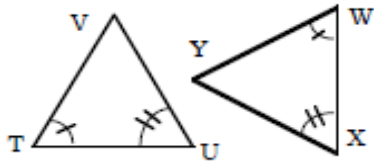
Determine if the triangles are congruent. If yes, make a congruency statement and give the reason why they are congruent. If they are not congruent, write "not congruent".

1.



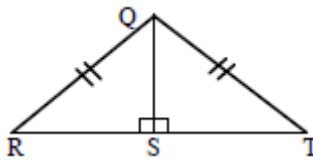
$\triangle MNP \cong \triangle$ _____ by _____

2.



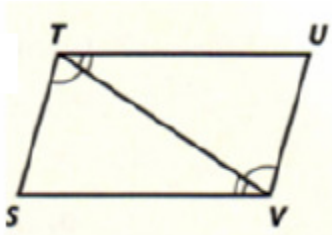
$\triangle TUV \cong \triangle$ _____ by _____

3.



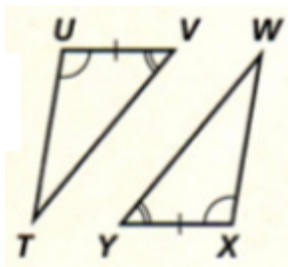
$\triangle QRS \cong \triangle$ _____ by _____

4.



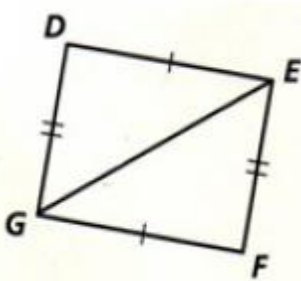
$\triangle TVS \cong \triangle$ _____ by _____

5.



$\triangle TUV \cong \triangle$ _____ by _____

6.



$\triangle DEG \cong \triangle$ _____ by _____

7.

If $\triangle RST \cong \triangle UWV$, complete each pair of congruent parts.

$\angle R \cong$ _____

_____ $\cong \angle W$

$\angle T \cong$ _____

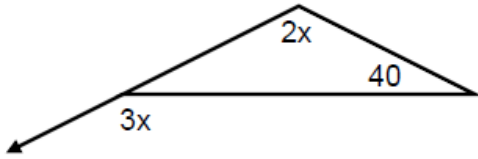
$\overline{RT} \cong$ _____

_____ $\cong \overline{UW}$

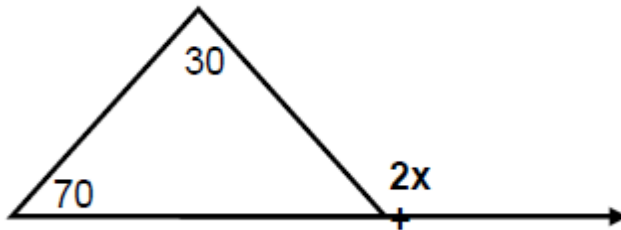
_____ $\cong \overline{WV}$

Station 3: Angles in a Triangle

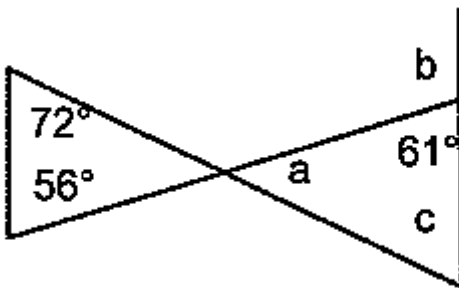
1. Solve for x



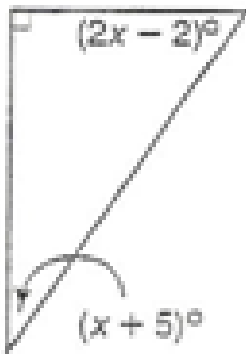
2. Solve for x



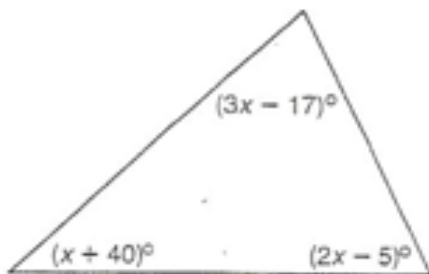
3. Solve for a, b and c



4.

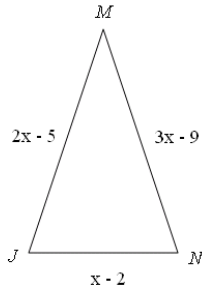


5.

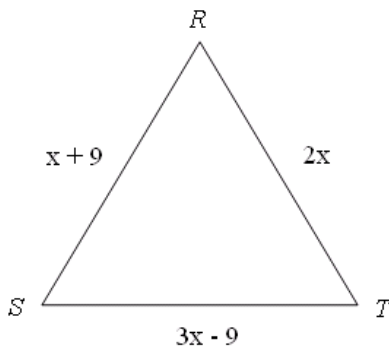


Station 4: Classifying Triangles

1. Find x , JM , MN , and JN if $\triangle JMN$ is an isosceles triangle with $\overline{JM} \cong \overline{MN}$.



2. Find x and the measure of each side of equilateral triangle RST .



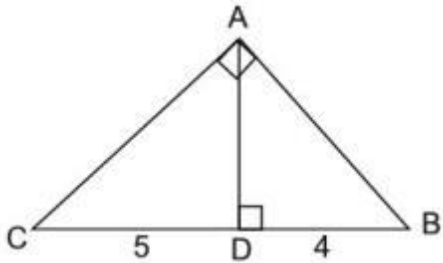
Find x and the measure of each side of the triangle.

3. $\triangle ABC$ is equilateral with $AB = 3x - 2$, $BC = 2x + 4$, and $CA = x + 10$.
4. $\triangle DEF$ is isosceles, $\angle D$ is the vertex angle, $DE = x + 7$, $DF = 3x - 1$, and $EF = 2x + 5$.

Station 5: Similar Triangles

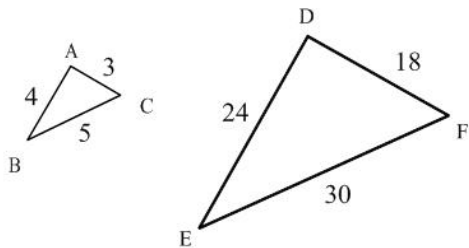
Determine if the triangles are similar. If yes, make a similarity statement and give the reason why they are similar. If they are not similar, write "not similar".

1.



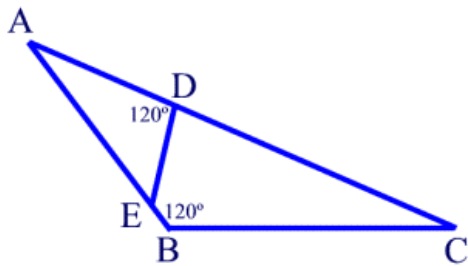
$\triangle ABD \sim \triangle$ _____ by _____

2.



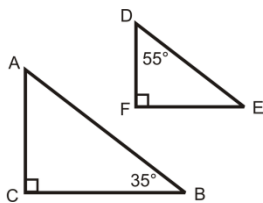
$\triangle DFE \sim \triangle$ _____ by _____

3.



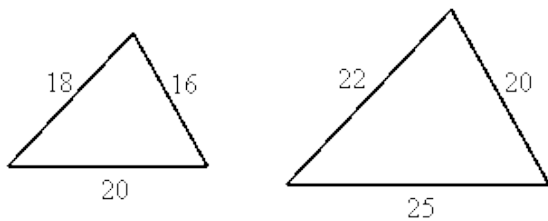
$\triangle DBC \sim \triangle$ _____ by _____

4.



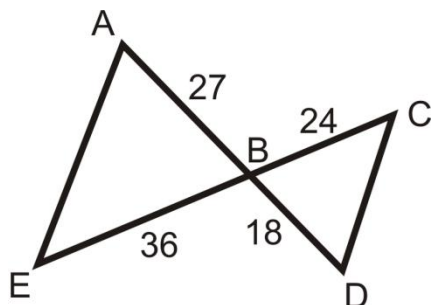
$\triangle ACB \sim \triangle$ _____ by _____

5.



$\triangle ABC \sim \triangle$ _____ by _____

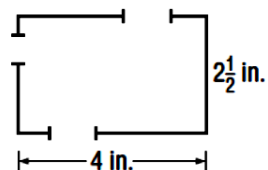
6.



$\triangle AEB \sim \triangle$ _____ by _____

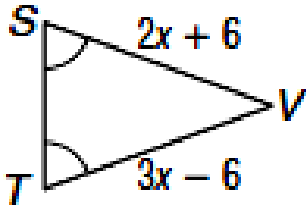
Station 6: Word Problems

1. A 6.5 ft tall car standing next to an adult elephant casts a 33.2 ft shadow. If the adult elephant casts a shadow that is 51.5 ft long then how tall is it?
2. If a 42.9 ft tall flagpole casts a 253.1 ft long shadow then how long is the shadow that a 6.2 ft tall woman casts?
3. A model house is 12 cm wide. If it was built with a scale of 3 cm : 4 m then how wide is the real house?
4. A 6 ft tall tent standing next to a cardboard box casts a 9 ft shadow. If the cardboard box casts a shadow that is 6 ft long then how tall is it?
5. **FARMING** The ratio of goats to sheep at a university research farm is 4:7. The number of sheep at the farm is 28. What is the number of goats?
6. **INTERIOR DESIGN** Graham used the scale drawing of his living room to decide where to place furniture. Find the dimensions of the living room if the scale in the drawing is 1 inch = 4.5 feet.

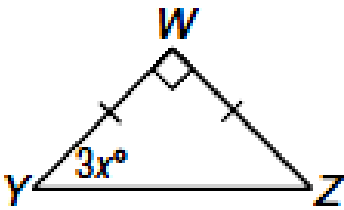


Station 7: Isosceles Triangles

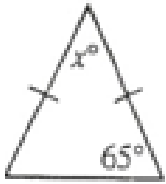
1. Solve for x



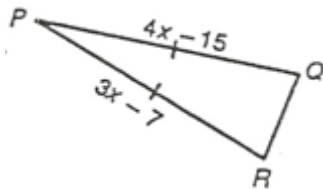
2. Solve for x



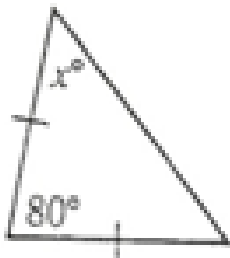
3. Solve for x



4. Solve for x



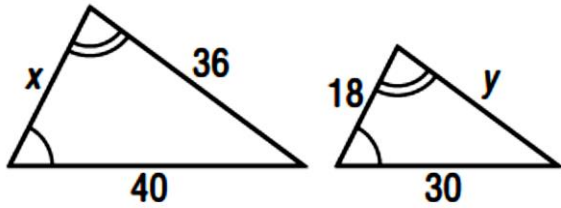
5. Solve for x



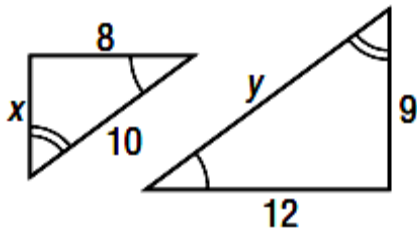
6. $\triangle ABC$ is an isosceles triangle with vertex angle B, $AB = 5x - 28$, $AC = x + 5$, and $BC = 2x + 11$. Find the length of the base. (Hint-draw a picture!)

Station 8: Similar Figures

1. Solve for x and y in the following similar figures.



2. Solve for x and y in the following similar figures.



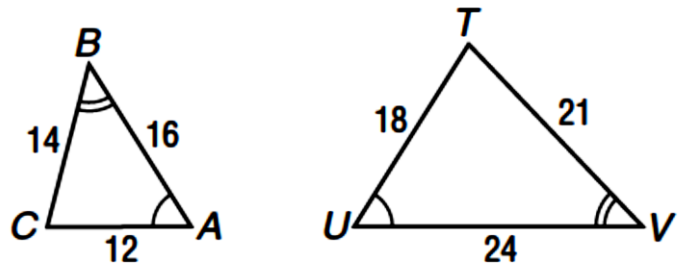
3. For the similar triangles shown, list the corresponding parts, write the similarity statement, and find the scale factor from the first triangle to the second.

Corresponding Angles:

Corresponding Sides:

Similarity Statement: $\triangle ABC \sim \triangle$ _____

Scale Factor:



4. If $\triangle RST \sim \triangle UVW$, find $m\angle W$.

