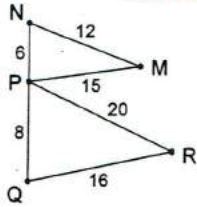


If the triangles in 1 – 3 can be proved similar, (1) Complete the similarity statement and (2) Tell which theorem or postulate you would use. If they cannot be proved similar then write "None."

1.  $\triangle NMP \sim \triangle QRP$  by SSS

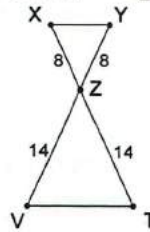


$$\frac{6}{8} = \frac{3}{4}$$

$$\frac{12}{16} = \frac{3}{4}$$

$$\frac{15}{20} = \frac{3}{4}$$

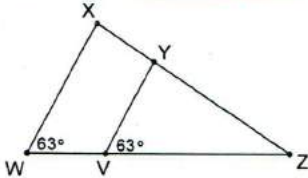
2.  $\triangle XYZ \sim \triangle VTZ$  by SAS



$$\frac{8}{14} = \frac{4}{7}$$

$$\frac{8}{14} = \frac{4}{7}$$

3.  $\triangle YVZ \sim \triangle XWZ$  by AA



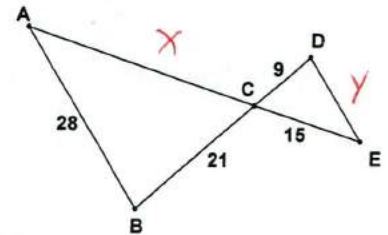
4.  $\triangle BAC \sim \triangle DEC$

a. What is the scale factor of  $\triangle BAC$  to  $\triangle DEC$ ?  $\frac{7}{3}$

b. Find AC. 35

$$\frac{7}{3} = \frac{x}{15}$$

$$\frac{21}{9} = \frac{7}{3}$$

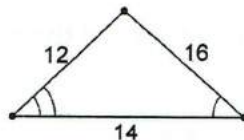
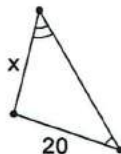


c. Find DE. 12

$$\frac{7}{3} = \frac{28}{y}$$

Find the value of x.

5.  $x =$  15



$$\frac{x}{12} = \frac{20}{16}$$

$$16x = 240$$

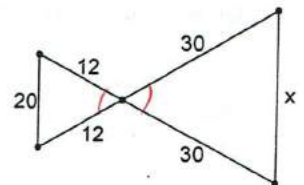
$$x = 15$$

6.  $x =$  50

$$\frac{12}{30} = \frac{20}{x}$$

$$12x = 600$$

$$x = 50$$



7. Midsegment of a Triangle:

a. The midsegment of a triangle joins the midpoints of two sides of a triangle.

b. The midsegment is parallel to the third side and is half the length of the third side.

8. The sum of the measures of the angles of a triangle is  $180^\circ$ .

9. The exterior angle of a triangle is equal to sum of the remote interior  $\Delta$ s of the triangle.

10. Triangle Proportionality Theorem and its converse:

a. A line that is parallel to one side of a triangle divides the other two sides proportionally.

b. If a line intersects 2 sides of a triangle so that it divides those 2 sides proportionally, then it is parallel to the 3<sup>rd</sup> side.

Use the diagram to answer 11 – 12.

11. Name the type of each given angle pair.

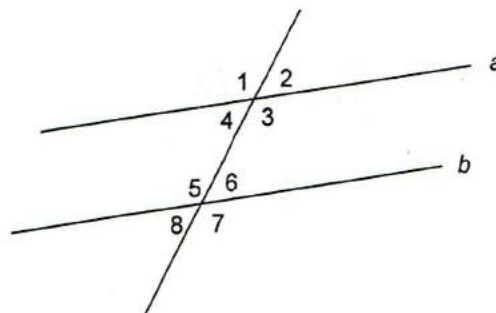
a.  $\angle 3$  and  $\angle 5$   
alt int  $\Delta$ s

d.  $\angle 8$  and  $\angle 6$   
vert  $\Delta$ s

b.  $\angle 1$  and  $\angle 7$   
alt ext  $\Delta$ s

e.  $\angle 4$  and  $\angle 3$   
lin pr

c.  $\angle 4$  and  $\angle 8$   
corr  $\Delta$ s



12. Given:  $a \parallel b$  and  $m\angle 5 = 132^\circ$ . Find the measure of each of the remaining angles.

$m\angle 1 = 132^\circ$ ,  $m\angle 2 = 48^\circ$ ,  $m\angle 3 = 132^\circ$ ,  $m\angle 4 = 48^\circ$ ,

$m\angle 6 = 48^\circ$ ,  $m\angle 7 = 132^\circ$ ,  $m\angle 8 = 48^\circ$