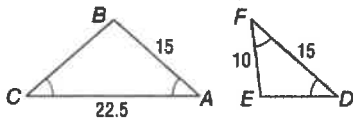


Chapter 7 Review  
Geometry CP

1. Of the 300 television sets sold at an electronics store last month, 90 were flat-screen TVs. What is the ratio of flat-screen TVs to other TVs sold last month?

$$\frac{90}{210} = \frac{3}{7} \quad \text{3 flat screens to 7 other tvs}$$

2. Determine whether  $\triangle ABC \sim \triangle DEF$ . Justify your answer.



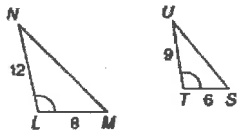
$$\frac{22.5}{15} \stackrel{?}{=} \frac{15}{10}$$

$$\frac{3}{2} = \frac{3}{2} \checkmark$$

by SAS similarity  
OR  
AA similarity

3. Determine whether the following triangles are similar. If they are state the theorem or postulate. If not then explain why not.

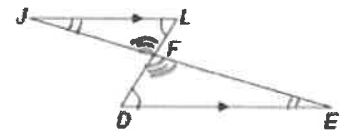
a.



$$\frac{12}{9} \stackrel{?}{=} \frac{8}{6} \quad \text{by SAS similarity}$$

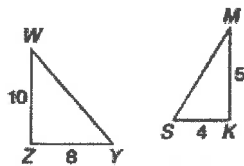
$$\frac{4}{3} = \frac{4}{3} \checkmark$$

c.



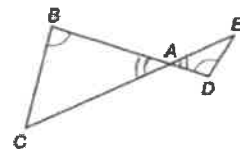
by AA similarity

b.



Not similar  
would need 3rd side

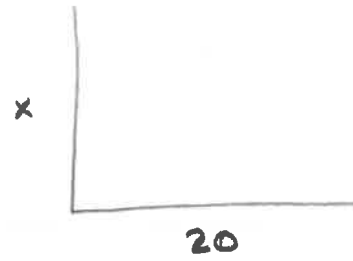
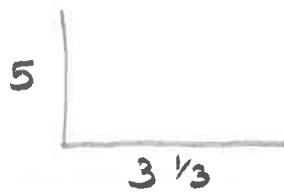
d.



by AA similarity

Chapter 7 Review  
Geometry CP

4. When a 5-foot vertical pole casts a 3 foot 4 inch shadow, an oak tree casts a 20-foot shadow. Find the height of the tree.

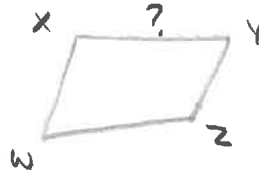
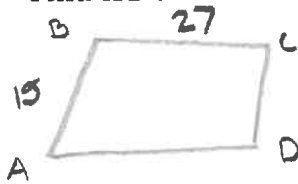


$$\frac{5}{x} = \frac{10/3}{20}$$

$$100 = \frac{10}{3} x$$

$$\boxed{30' = x}$$

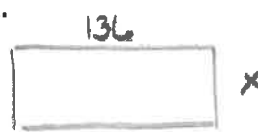
5.  $ABCD \sim WXYZ$ ,  $AB = 15$ ,  $BC = 27$ , and the scale factor of  $WXYZ \sim ABCD$  is  $\frac{2}{3}$ . Find  $XY$ .



$$\frac{XY}{27} = \frac{2}{3}$$

$$\boxed{XY = 18}$$

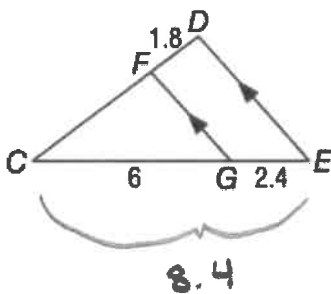
6. The blueprint for a swimming pool is 8 inches by  $2\frac{1}{2}$  inches. The actual pool is 136 feet long. Find the width of the pool.



$$\frac{x}{5/2} = \frac{136}{8}$$

$$\boxed{x = 42.5 \text{ ft}}$$

7. Find  $CD$



$$\frac{CD}{8.4} = \frac{1.8}{2.4} \quad \text{OR}$$

$$\boxed{CD = 6.3}$$

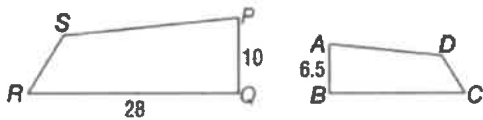
$$\frac{1.8}{2.4} = \frac{x}{6}$$

$$4.5 = x$$

$$CD = 4.5 + 1.8$$

$$= 6.3$$

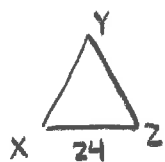
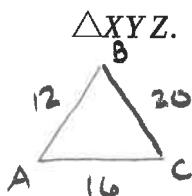
8. If  $ABCD \sim PQRS$ , find  $BC$



$$\frac{6.5}{10} = \frac{x}{28}$$

$$18.2 = x$$

9.  $\triangle ABC \sim \triangle XYZ$ ,  $AB = 12$ ,  $AC = 16$ ,  $BC = 20$ , and  $XZ = 24$ . Find the perimeter of



$$\frac{24}{16} = \frac{YZ}{20}$$

$$\frac{24}{16} = \frac{YX}{12}$$

$$30 = YZ$$

$$18 = YX$$

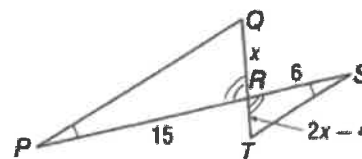
$$\text{Perimeter} = 24 + 30 + 18$$

$$= 72$$

For questions 9 and 10, use the figure.

10. Identify the similar triangles

$\triangle PQR \sim \triangle STR$  by AA Similarity



11. Find the value of  $x$ .

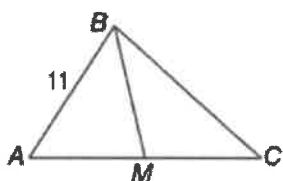
$$\frac{6}{15} = \frac{2x-4}{x}$$

$$60 = 24x$$

$$2.5 = x$$

$$6x = 30x - 60$$

12. If  $\triangle ABC \sim \triangle PQR$  and  $\overline{BM}$  and  $\overline{QN}$  are medians, find  $BM$ .



$$\frac{BM}{3.8} = \frac{11}{4.4}$$

$$BM = 9.5$$

13. The ratio of the measures of the three sides of a triangle is 3:4:6. If the perimeter is 91, find the length of the longest side.

$$91 = 3x + 4x + 6x$$

$$6(7) = 42$$

$$91 = 13x$$

42 u is longest side

$$7 = x$$

14. The ratio of the measures of the angles of a triangle is 4:6:6. Find the measures of each angle.

$$180 = 4x + 6x + 6x$$

$$180 = 16x$$

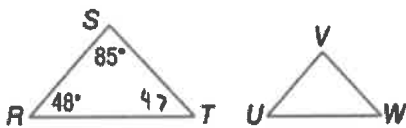
$$11.25 = x$$

$$4(11.25) = 45^\circ$$

$$6(11.25) = 67.5^\circ$$

$$45^\circ, 67.5^\circ, \& 67.5^\circ$$

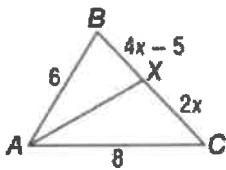
15. If  $\triangle RST \sim \triangle UVW$ , find  $m\angle W$



$$\angle T \cong \angle W$$

$$m\angle W = 47^\circ$$

16. In  $\triangle ABC$ ,  $\overline{AX}$  bisects  $\angle BAC$ . Find the value of  $x$ .



$$\frac{CX}{BX} = \frac{AC}{AB}$$

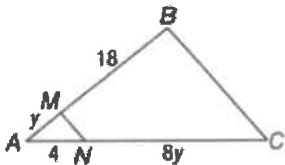
$$\frac{2x}{4x-5} = \frac{8}{6}$$

$$12x = 32x - 40$$

$$-20x = -40$$

$$x = 2$$

17. Find the value of  $y$  so that  $\overline{MN} \parallel \overline{BC}$ .



$$\frac{y}{4} = \frac{18}{8y}$$

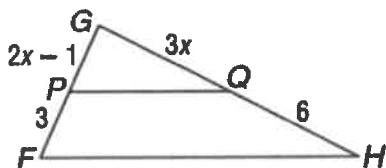
$$8y^2 = 72$$

$$y^2 = 9$$

$$y = \pm 3$$

$$y = 3$$

18. Find  $x$  so that  $\overline{PQ} \parallel \overline{FH}$



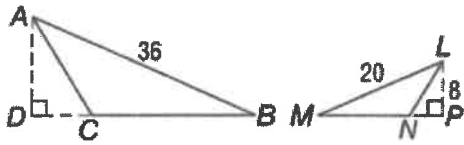
$$\frac{2x-1}{3x} = \frac{3}{6}$$

$$12x - 6 = 9x$$

$$3x = 6$$

$$x = 2$$

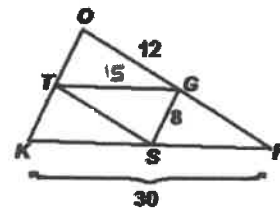
19.  $\triangle ABC \sim \triangle LMN$ , and  $\overline{AD}$  and  $\overline{LP}$  are altitudes. Find  $AD$ .



$$\frac{x}{8} = \frac{36}{20}$$

$$x = 14.4$$

Use the diagram for questions 17-19.  
In  $\triangle OKH$ ,  $G$ ,  $T$ , &  $S$  are midpoints.



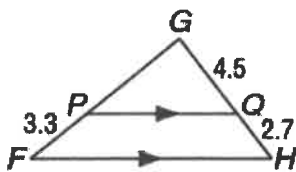
20. Find  $GT = 15$

21. Find  $OK = 16$

22. Find the perimeter of  $\triangle GTS$

$$15 + 8 + 12 = 35$$

23. Find  $GP$

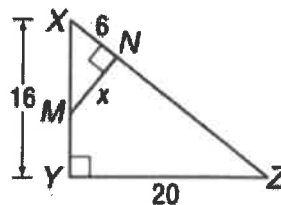


$$\frac{4.5}{GP} = \frac{2.7}{3.3}$$

$$2.7 GP = 14.85$$

$$GP = 5.5$$

24. Find  $MN$

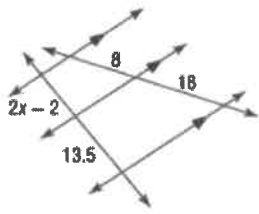


$$\frac{6}{20} = \frac{x}{16}$$

$$\frac{96}{20} = x$$

$$4.8 = x = MN$$

25. Find the value of  $x$ .



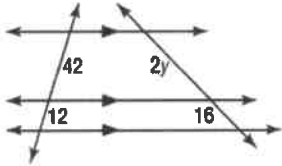
$$\frac{8}{2x-2} = \frac{18}{13.5}$$

$$108 = 36x - 36$$

$$144 = 36x$$

$$\boxed{4 = x}$$

27. Find  $y$

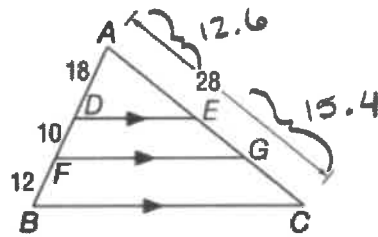


$$\frac{42}{12} = \frac{2y}{18}$$

$$672 = 24y$$

$$\boxed{28 = y}$$

26. Find  $EG$



$$\frac{18}{22} = \frac{28 - EC}{EC}$$

$$18 EC = 616 - 22 EC$$

$$40 EC = 616$$

$$EC = 15.4$$

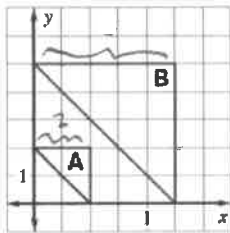
$$\frac{18}{10} = \frac{12.6}{EG}$$

$$18 EG = 126$$

$$\boxed{EG = 7}$$

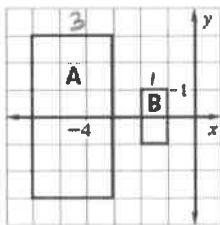
In questions 22 & 23, tell whether the dilation is a *reduction* or an *enlargement*, then find its scale factor.

28.



enlargement  
 $\frac{5}{2}$

29.



reduction  
 $\frac{1}{3}$