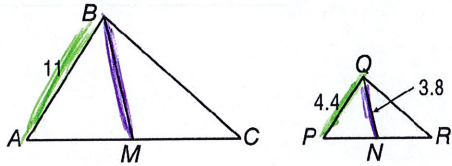


# Chapter 7 Test, REVIEW (continued)

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



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

$$4.4BM = 41.8$$

$$BM$$

12.  $BM = 9.5$

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.

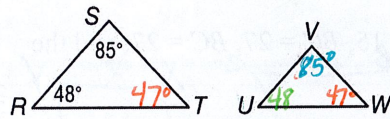
$$3x + 4x + 6x = 91$$

$$13x = 91$$

$$x = 7$$

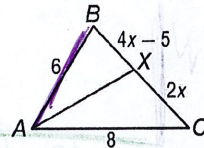
13. 42 Units

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



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

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



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

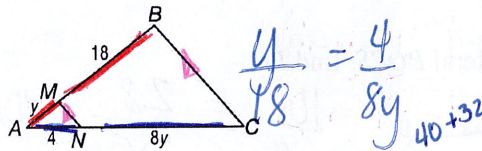
$$12x = 32x - 40$$

$$-32x = -40$$

$$20x = -40$$

$$x = 2$$

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



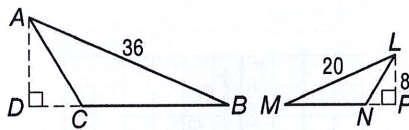
$$\frac{y}{18} = \frac{4}{8y}$$

$$8y^2 = 72$$

$$y^2 = 9$$

$$y = 3$$

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

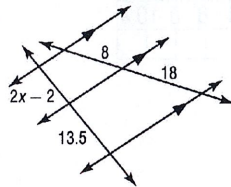


$$20x = 288$$

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

17.  $20x = 14.4$

18. Find the value of  $x$ .



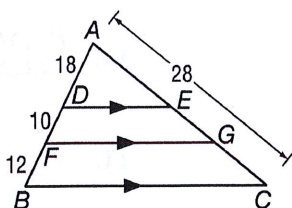
$$\frac{8}{2x-2} = \frac{18}{13.5}$$

$$36x - 36 = 108$$

$$36x = 144$$

18.  $x = 4$

Bonus Find  $EG$ .



# Chapter 7 REVIEW

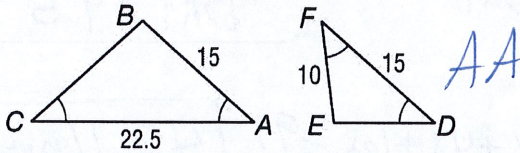
SCORE \_\_\_\_\_

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?

1.  $\frac{3}{7}$  3:7

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

$\frac{90}{300} = \frac{90}{210}$



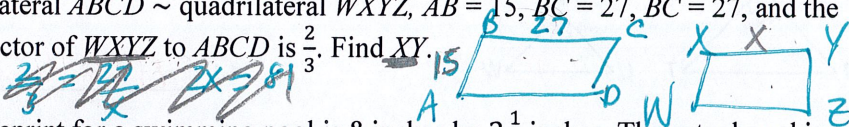
2. Yes because AA Similarity

3. 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.

$\frac{3.37}{5} = \frac{20}{x}$

3. 30 ft

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



$\frac{2}{3} \times \frac{x}{27} = \frac{15}{x}$   
 $\frac{2x}{81} = \frac{15}{x}$   
 $2x^2 = 15 \times 81$   
 $2x^2 = 1215$   
 $x^2 = 607.5$   
 $x = \sqrt{607.5} \approx 24.6$

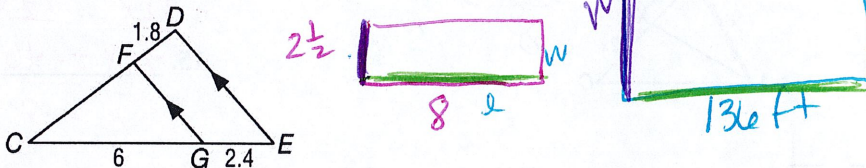
4. 18

5. 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.

$\frac{2.5}{W} = \frac{8}{136}$   
 $8W = 340$   
 $W = \frac{340}{8} = 42.5$

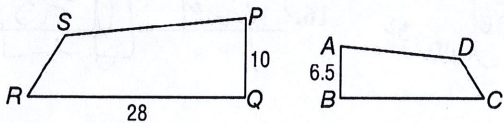
5. 42.5 ft

6. Find  $CD$ .



6. 6:3

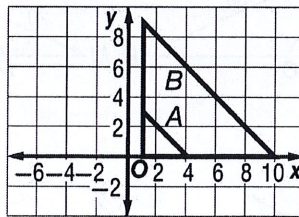
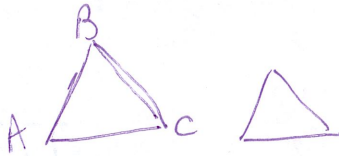
7. If quadrilateral  $ABCD \sim$  quadrilateral  $PQRS$ , find  $BC$ .



$\frac{10}{6.5} = \frac{28}{x}$   
 $10x = 182$   
 $x = 18.2$

7. 18.2

8. Is the dilation a similarity transformation? Verify your answer.



yes SAS

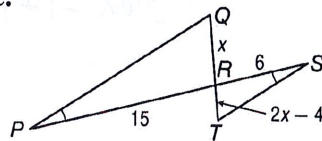
8. \_\_\_\_\_

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

9. 78

For Questions 10 and 11, use the figure.

10. Identify the similar triangles.



10.  $\triangle PQR \sim \triangle STR$

11. Find the value of  $x$ .

11.  $x = 2\frac{1}{2}$