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Chapter 6

(Lessons 6–1 and 6–2)

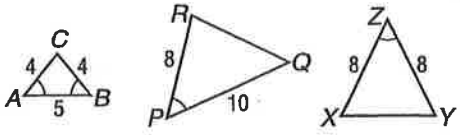
1. **GARDENS** The model of a circular garden is 8 inches in diameter. The actual garden will be 20 feet in diameter. What is the ratio of the diameter of the model to the diameter of the actual garden?

1. 1:30

2. **PHOTOS** A 4-inch by 6-inch photograph, set vertically, is enlarged to make a poster 22 inches wide. How tall is the poster?

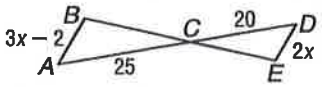
2. 33in

3. Are any of the three triangles similar? If so, write the appropriate similarity statement.



3. $\triangle BAC \sim \triangle QPR$
$\triangle ABC \sim \triangle QPR$ by SAS

4. If $\triangle ABC \sim \triangle DEC$, find x and the scale factor of $\triangle ABC$ to $\triangle DEC$.



4. $x = 4$
S.F. 5:4

5. **STANDARDIZED TEST PRACTICE** The perimeter of a rectangle is 126 centimeters. The ratio of the length to the width is 5:2. Find the width of the rectangle.

A. 9 cm **B.** 18 cm **C.** 45 cm **D.** 50.4 cm

5. B

Assessments

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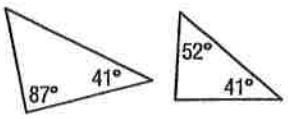
Chapter 6

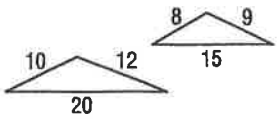
(Lesson 6–3)

For Questions 1 and 2, determine whether each pair of triangles is similar. Justify your answer.

1.



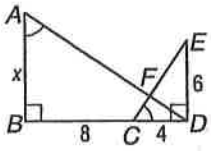
2.



1. Yes AA

2. No sides not proportional

3. Identify the similar triangles in the figure, then find x.

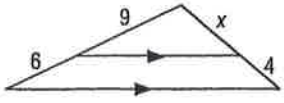


3. $\triangle ABD \sim \triangle CDE$ or $\triangle ADB \sim \triangle CDF$
8

4. **SHADOWS** A person who is 5 feet tall casts a shadow that is 4 feet long. At the same time, a flagpole casts a shadow that is 18 feet long. How tall is the flagpole?

4. 22.5 ft

5. Find x.



5. 0

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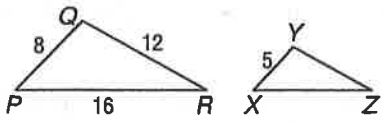
Chapter 6

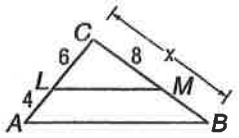
(Lessons 6–4 and 6–5)

1. If $\triangle PQR \sim \triangle XYZ$, find the perimeter of $\triangle XYZ$.



1. 22 1/2

2. Find x so that $\overline{LM} \parallel \overline{AB}$.

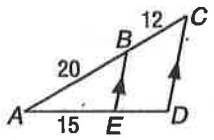


2. 13 1/3

3. In $\triangle ABC$, $\overline{DE}$ is parallel to $\overline{AC}$ and $DE = 10$. What is the length of $\overline{AC}$ if $\overline{DE}$ is the midsegment of $\triangle ABC$?

3. 20

4. Find DE.



4. 9

5. In $\triangle RST$, $\overrightarrow{TU}$ bisects $\angle T$. If U is a point on $\overline{RS}$, $RU = 6$, $RT = 9$, and $ST = 12$, find RS.

5. 14

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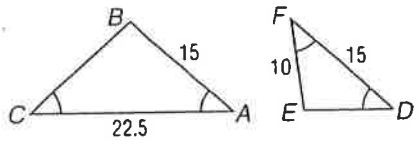
6 Chapter 6 REVIEW

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

1. 3 7

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



2. yes, corres ∠'s ≅

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

3. 33⅓ 33⅓ ft

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

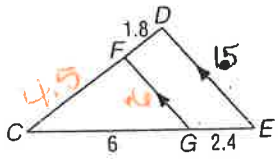
4. 18

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.

5. 42.5 ft

6. a). Find ***CD***.

b). Find ***FG***.



$\frac{3}{4} = \frac{x}{1.5} = \frac{9}{8.4}$

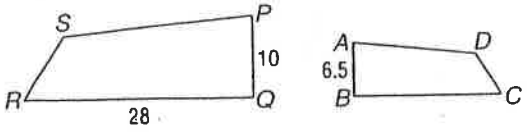
$8.4x = 9$

$x = 1.07$

6. a) 6.3

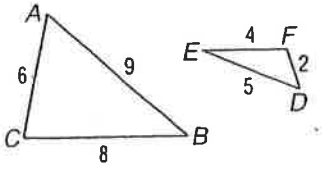
b) 1.07

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



7. 18.2

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

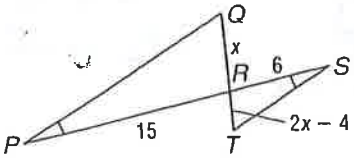


8. No, sides not proportional

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

9. 72

For Questions 10 and 11, use the figure.



10. Identify the similar triangles.

10. ΔPQR ~ ΔSTR

11. Find x.

11. 2½

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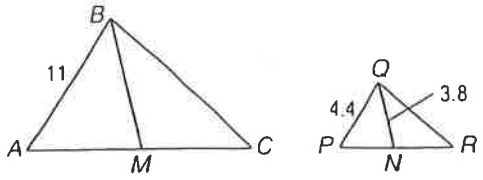
6

Chapter 6 REVIEW

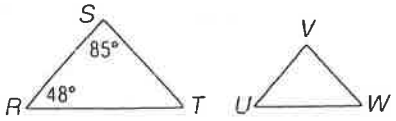
(continued)

12. If $\triangle ABC \sim \triangle PQR$ and $\overline{BM}$ and $\overline{QN}$ are medians, find BM. 12. 9.5

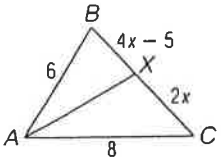


13. The ratio of the measures of the three sides of a triangle is 3:4:6. If the perimeter is 91, find the measure of the longest side. 13. 42

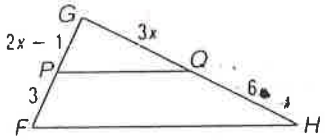
14. If $\triangle RST \sim \triangle UVW$, find $m\angle W$. 14. 47



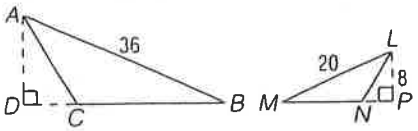
15. In $\triangle ABC$, $\overline{AX}$ bisects $\angle BAC$. Find x. 15. 2



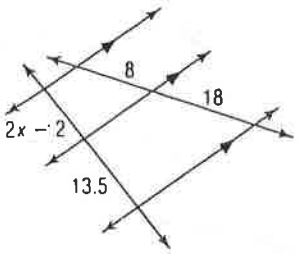
16. Find x so that $\overline{PQ} \parallel \overline{FH}$. 16. 3



17. $\triangle ABC \sim \triangle LMN$, and $\overline{AD}$ and $\overline{LP}$ are altitudes. Find AD. 17. 14.4



18. Find x. 18. 4



19. Are the following similar. Justify. 19. no sides not proportional

20. Solve the proportion to find x. 20. x=9.5

$$\frac{x+1}{3} = \frac{7}{2}$$

$21 = 2(x+1)$

$21 = 2x + 2$

$2x = 19$ $x = 9.5$