7 Chapter 7 Test, Form 2C

Assessment

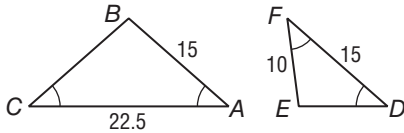**1.** Of the 300 television sets sold at an electronics store last month, 90 were flat-screen TVs. What is the ratio of flat-screen TVs to other TVs sold last month?

1. _____

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

2. _____

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.

3. _____

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.

4. _____

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.
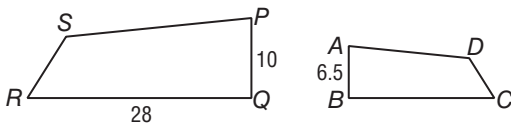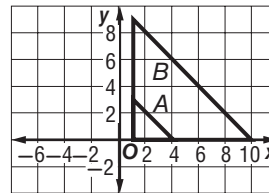
5. _____

6. Find CD.

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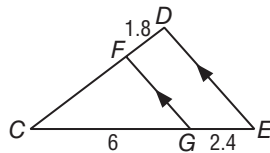
7. If quadrilateral $ABCD \sim$ quadrilateral $PQRS$, find BC.

7. _____

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

8. _____

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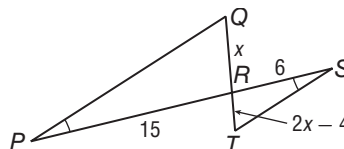
9. _____

For Questions 10 and 11, use the figure.
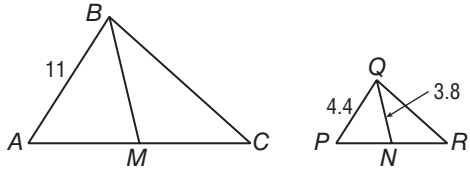
10. Identify the similar triangles.

10. _____

11. Find the value of x.

11. _____

7   **Chapter 7 Test, Form 2C** *(continued)*

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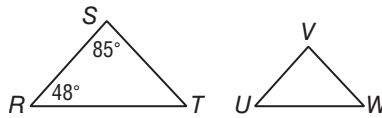
12. _____

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.
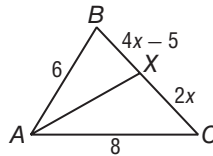
13. _____

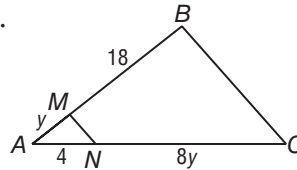**14.** If $\triangle RST \sim \triangle UVW$, find $m\angle W$.

14. _____

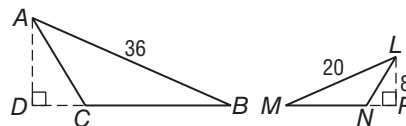**15.** In $\triangle ABC$, $\overline{AX}$ bisects $\angle BAC$. Find the value of x.

15. _____

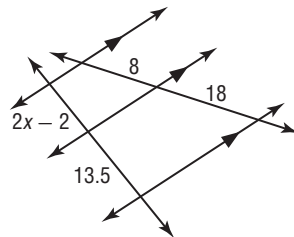**16.** Find the value of y so that $\overline{MN} \parallel \overline{BC}$.

16. _____

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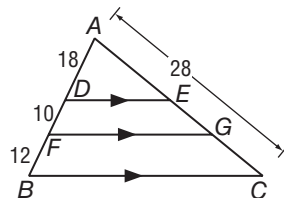
17. _____

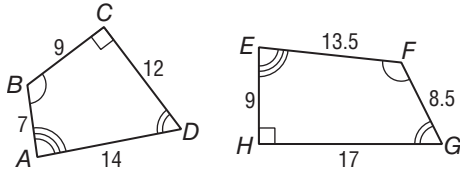**18.** Find the value of x.

18. _____

Bonus Find EG.

B: _____

7   Chapter 7 Test, Form 2D

Assessment

**1.** Of the 112 students in the marching band, 35 were in the drum section. What is the ratio of drummers to other musicians in the band?

1. _____

2. Determine whether quadrilateral $ABCD \sim$ quadrilateral $EFGH$. Justify your answer.

2. _____

3. When a 9-foot tall garden shed cast a 5-foot 3-inch shadow, a house cast a 28-foot shadow. Find the height of the house.

3. _____

4. $\triangle ABC \sim \triangle FGH$, $AB = 24$, $AC = 16$, $GH = 9$, and $FH = 12$. Find the scale factor of $\triangle ABC$ to $\triangle FGH$.

4. _____

5. The model of a suspension bridge is 18 inches long and 2 inches tall. If the length of the actual bridge is 1650 feet, find its height.
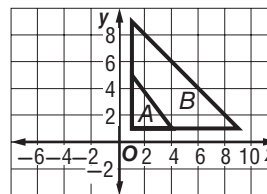
5. _____

6. Find GP.

6. _____
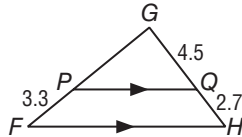
7. If $\triangle JKL \sim \triangle PQR$, find the value of x.

7. _____

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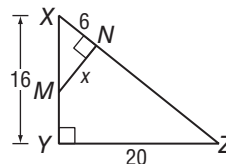
8. _____

9. $\triangle ABC \sim \triangle PQR$, $AB = 18$, $BC = 20$, $AC = 22$, and $QR = 25$. Find the perimeter of $\triangle PQR$.

9. _____

For Questions 10 and 11, use the figure.

10. Identify the similar triangles.

10. _____

11. Find MN.

11. _____

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7 **Chapter 7 Test, Form 2D** *(continued)*

12. If $\triangle FGH \sim \triangle LMN$ and $\overline{AF}$ and $\overline{BL}$ are medians, find BL.
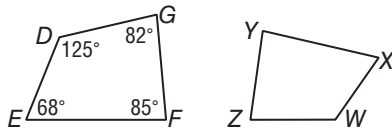

12. _____
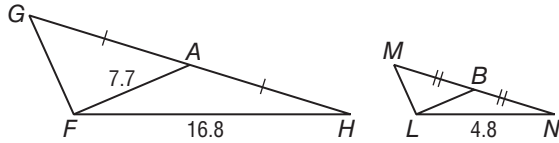
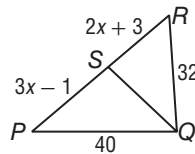**13.** The ratio of the measures of the three angles of a triangle is 3:4:8. Find the measure of the largest angle.

13. _____

14. If quadrilateral $DEFG \sim$ quadrilateral $WXYZ$, find $m\angle Y$.
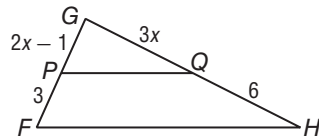

14. _____

15. In $\triangle PQR$, $\overline{QS}$ bisects $\angle PQR$. Find the value of x.
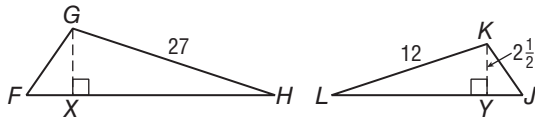

15. _____

16. Find the value of x so that $\overline{PQ} \parallel \overline{FH}$.
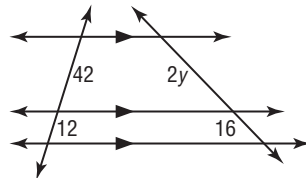

16. _____

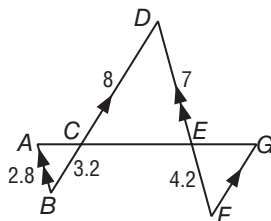**17.** If $\triangle FGH \sim \triangle JKL$, find GX.

17. _____

18. Find the value of y.

18. _____

Bonus Find FG.

B: _____

Chapter 7 Assessment Answer Key

1. _____ **3:7** _____

2. _____ **Yes; AA Similarity** _____

3. _____ **30 ft** _____

4. _____ **18** _____

5. _____ **42.5 ft** _____

6. _____ **6.3** _____

7. _____ **18.2** _____

8. ~~Yes.~~ **No** The right angles are congruent. The legs are proportional. By SAS similarity, the triangles are similar.

   $\frac{4}{10} \neq \frac{3}{9}$

9. _____ **72** _____

10. _____ **△PQR ~ △STR** _____

11. _____ $2\frac{1}{2}$ _____

12. _____ **9.5** _____

13. _____ **42** _____

14. _____ **47** _____

15. _____ **2** _____

16. _____ **3** _____

17. _____ **14.4** _____

18. _____ **4** _____

B: _____ **7** _____

Answers

Chapter 7 Assessment Answer Key

Form 2D
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1. _____ 5:11 _____

2. _____ No; the corresponding sides are not proportional. _____

3. _____ 48 ft _____

4. _____ $\frac{4}{3}$ _____

5. _____ $188\frac{1}{3}$ ft _____

6. _____ 5.5 _____

7. _____ 15 _____

8. _____ No. The legs of the right triangles are not proportional. _____

9. _____ 75 _____

10. _____ $\triangle XYZ \sim \triangle XNM$ _____

11. _____ 7.5 _____

12. _____ 2.2 _____

13. _____ 96 _____

14. _____ 85 _____

15. _____ 9.5 _____

16. _____ 2 _____

17. _____ $5\frac{5}{8}$ _____

18. _____ 28 _____

B: _____ 4.8 _____