

2

**Chapter 2 Cumulative Review**

(Chapters 1-2)

SCORE \_\_\_\_\_

1. Draw and label a figure so that  $\overleftrightarrow{AB}$  is the intersection of plane  $R$  and plane  $T$ . (Lesson 1-1) **1.**

**For Questions 2 and 3, use the Distance Formula to find the distance between each pair of points to the nearest hundredth.** (Lesson 1-3)

2.  $A(1, -4), B(5, 3)$

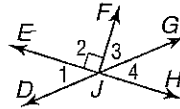
3.  $C(-6, 8), D(4, -1)$

2. \_\_\_\_\_

3. \_\_\_\_\_

**For Questions 4-7, use the figure.**

4. Name the vertex of  $\angle 3$ . (Lesson 1-4)



5. Name the sides of  $\angle 2$ . (Lesson 1-4)

4. \_\_\_\_\_

5. \_\_\_\_\_

6. Name the angle that forms a linear pair with  $\angle 4$ . (Lesson 1-5)

6. \_\_\_\_\_

7. Name two acute adjacent angles. (Lesson 1-5)

7. \_\_\_\_\_

8. If the perimeter of an  $n$ -gon is 4.25 inches, find the perimeter when the length of each side is multiplied by 6. (Lesson 1-6)

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

9. Make a conjecture based on the statement  $\overleftrightarrow{AB}$  and  $\overleftrightarrow{CD}$  are parallel. Draw a figure to illustrate your conjecture. (Lesson 2-1)

9. \_\_\_\_\_

10. Suppose  $p$  and  $r$  are true and  $q$  is false. What is the truth value of the conjunction  $(\sim p \vee \sim q) \wedge r$ ? (Lesson 2-2)

10. \_\_\_\_\_

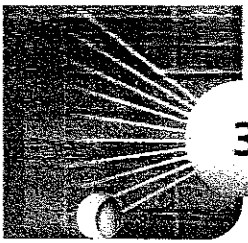
11. Write the *converse* of the statement *If a ray bisects an angle, it extends from the vertex of the angle.* (Lesson 2-3)

11. \_\_\_\_\_

12. Use the Law of Detachment to determine whether a valid conclusion can be reached from the following set of statements.

12. \_\_\_\_\_

- (1) *If two angles are congruent, they have the same measure.*  
 (2)  $\angle A$  and  $\angle B$  are congruent. (Lesson 2-4)

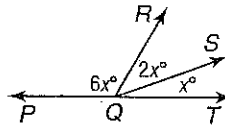


# Unit 1 Review

(Chapter 1-3)

2. Find the distance between  $S(5, -7)$  and  $T(13, -9)$ . Then find the coordinates of the midpoint of  $\overline{ST}$ . 2. \_\_\_\_\_

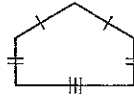
3. In the figure,  $\overrightarrow{QP}$  and  $\overrightarrow{QT}$  are opposite rays. Find  $m\angle PQR$ ,  $m\angle RQS$ , and  $m\angle SQT$ . Then classify each angle as *right*, *acute*, or *obtuse*.



3. \_\_\_\_\_

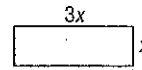
4. Find the measures of two complementary angles if the difference in the measures is 16. 4. \_\_\_\_\_

5. Name the polygon by its number of sides. Then classify it as *convex* or *concave* and *regular* or *irregular*.



5. \_\_\_\_\_

6. Lou is roping a boundary for an event at a local carnival. She has 144 feet of rope, and the event supervisor has instructed her to rope an area that is three times as long as it is wide. Find the length of each roped side.



6. \_\_\_\_\_

7. Make a conjecture about the next letter in the sequence. L M N P Q R T ... 7. \_\_\_\_\_

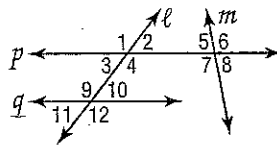
8. Construct a truth table for  $\sim p \wedge q$ . 8. \_\_\_\_\_

9. Identify the hypothesis and conclusion of the statement. *In a plane, if lines  $\ell$  and  $m$  are equidistant from line  $p$ , then  $\ell \parallel m$ .* 9. \_\_\_\_\_

10. Cailyn knows that if two angles are vertical, they are congruent. She also knows that if two angles are congruent, then they have the same measure. She is given vertical angles 1 and 2, and she concludes that  $m\angle 1 = m\angle 2$ . What law of reasoning does she use? 10. \_\_\_\_\_

11. Determine whether the following statement is *always*, *sometimes*, or *never* true. *Points X, Y, and Z determine two lines.* 11. \_\_\_\_\_

For Questions 17 and 18, refer to the figure.



17. Name the transversal that forms  $\angle 3$  and  $\angle 6$ . Then identify the special name for the angle pair.

17. \_\_\_\_\_

18. If  $p \parallel q$ ,  $m\angle 1 = 5b + 23$ , and  $m\angle 11 = 2b + 10$ , find  $m\angle 2$ ,  $m\angle 4$ ,  $m\angle 10$ , and  $m\angle 12$ .

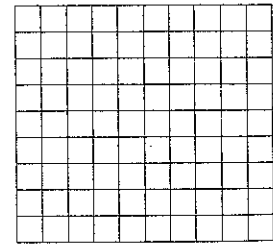
18. \_\_\_\_\_

19. Determine whether  $\overline{QR}$  and  $\overline{ST}$  are *parallel*, *perpendicular*, or *neither* for  $Q(-4, -4)$ ,  $R(5, 2)$ ,  $S(4, -5)$ , and  $T(0, 1)$ .

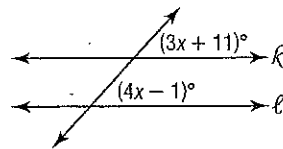
19. \_\_\_\_\_

20. Graph the line that contains  $C(3, -1)$  and has a slope of  $-2$ . Then write an equation for the line in slope-intercept form.

20. \_\_\_\_\_



21. Find  $x$  so that  $k \parallel l$ .



21. \_\_\_\_\_

22. Find the distance between two lines that have equations  $y = 3x + 1$  and  $y = 3x - 19$ .

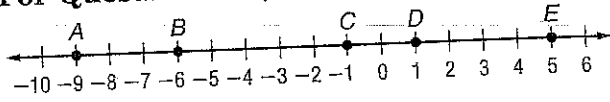
22. \_\_\_\_\_

# 4 Chapter 4 Cumulative Review

(Chapters 1-4)

1. Name the geometric figure that is modeled by the second hand of a clock. (Lesson 1-1) 1. \_\_\_\_\_

For Questions 3-5, use the number line.



3. Find  $BC$ . (Lesson 1-3)

4. Find the coordinate of the midpoint of  $\overline{AD}$ . (Lesson 1-3)

5. If  $B$  is the midpoint of a segment having one endpoint at  $E$ , what is the coordinate of its other endpoint? (Lesson 1-3)

3. \_\_\_\_\_

4. \_\_\_\_\_

5. \_\_\_\_\_

For Questions 6 and 7, determine whether each statement is *always*, *sometimes*, or *never* true. Explain your answer.

(Lesson 2-5)

6. If  $\overline{DE} \cong \overline{EF}$ , then  $E$  is the midpoint of  $\overline{DF}$ .

7. If points  $A$  and  $B$  lie in plane  $Q$ , then  $\overline{AB}$  lies in  $Q$ .

8. Find the slope of a line parallel to  $x = 2$ . (Lesson 3-3)

9. Find the distance between  $y = -9$  and  $y = -5$ . (Lesson 3-6)

6. \_\_\_\_\_

7. \_\_\_\_\_

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

9. \_\_\_\_\_

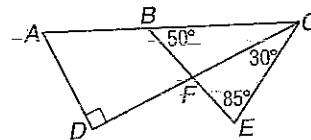
For Questions 10-12, use the figure.

10. Name the segment that represents the distance from  $F$  to  $\overline{AD}$ . (Lesson 3-6)

11. Classify  $\triangle ADC$ . (Lesson 4-1)

12. Find  $m\angle ACD$ . (Lesson 4-2)

13. Name the corresponding congruent angles and sides for  $\triangle PQR \cong \triangle HGB$ . (Lesson 4-3)



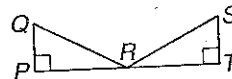
10. \_\_\_\_\_

11. \_\_\_\_\_

12. \_\_\_\_\_

13. \_\_\_\_\_

14. If  $\angle QRP \cong \angle SRT$ , and  $R$  is the midpoint of  $\overline{PT}$ , which theorem or postulate can be used to prove  $\triangle QRP \cong \triangle SRT$ ? Choose from SSS, SAS, ASA, and AAS. (Lesson 4-5)



14. \_\_\_\_\_

# Chapter 2 Assessment Answer Key

## Mid-Chapter Test Page 121

### Part I

1. A

2. B

3. A

4. C

5. D

### Part II

6.  $a = -6$

7. If two  $\triangle$ s are right  $\triangle$ s, then they are  $\cong$ .

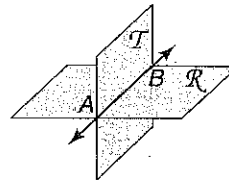
8. Charlie can swim.

9. If the Giants score a touchdown, then they will play in the Super Bowl.

10. true

## Cumulative Review Page 122

1.



2. 8.06 units

3. 13.45 units

4. point J

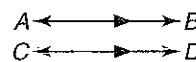
5.  $\overrightarrow{JE}$  and  $\overrightarrow{JF}$

6.  $\angle EJG$  or  $\angle DJH$

7.  $\angle 3$  and  $\angle 4$

8. 25.5 in.

9.  $\overrightarrow{AB}$  and  $\overrightarrow{CD}$  do not intersect.



10. true

11. If a ray extends from the vertex of an  $\angle$ , it bisects the  $\angle$ .

12.  $\angle A$  and  $\angle B$  have the same measure.

13.  $3 = 14x - 53$

14. Addition Property

15.  $\frac{56}{14} = \frac{14x}{14}$

# Chapter 3 Assessment Answer Key

## Unit 1 Test/Review

Page 181

1.  $2\frac{1}{2}$  in.;  $\frac{1}{4}$  in.

2.  $\sqrt{68}$  or  $2\sqrt{17}$  or about 8.25; (9, -8)

3.  $m\angle PQR = 120$ , obtuse;  
 $m\angle RQS = 40$ , acute;  
 $m\angle SQT = 20$ , acute

4. 53 and 37

5. pentagon,  
convex, irregular

6. 54 ft long by  
18 ft wide

7. U

8.

$p$	$q$	$\sim p$	$\sim p \wedge q$
T	T	F	F
T	F	F	F
F	T	T	T
F	F	T	F

9. hypothesis: in a plane, lines  $\ell$  and  $m$  are equidistant from line  $p$ ;  
conclusion:  $\ell \parallel m$

10. Law of Syllogism

11. sometimes

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12. Given

13. Angles comp. to  $\cong \triangle$  are  $\cong$ .

14. Def. of  $\cong \triangle$

15. Def. of comp.  $\triangle$

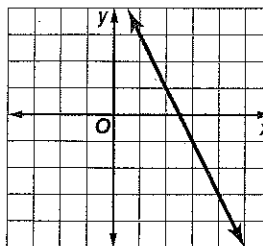
16. Substitution

17.  $p$ ; alternate exterior angles

18.  $m\angle 2 = 52$ ,  $m\angle 4 = 128$ ,  $m\angle 10 = 52$ ,  $m\angle 12 = 128$

19. perpendicular

20.  $y = -2x + 5$



21. 12

22.  $\sqrt{40}$  or  $2\sqrt{10}$  or about 6.32 units

# Chapter 4 Assessment Answer Key

## Mid-Chapter Test

Page 241

### Part I

1. D

2. C

3. A

4. B

### Part II

5. 
$$\begin{aligned} AB &= \sqrt{41}, \\ BC &= \sqrt{29}, \\ AC &= 5\sqrt{2}; \text{ scalene} \end{aligned}$$

6. 
$$\begin{aligned} AB &= A'B' = \sqrt{26}, \\ BC &= B'C' = 2\sqrt{5}, \\ AC &= A'C' = 3\sqrt{2} \end{aligned}$$

7.  $\overline{PO}$  and  $\overline{LN}$  bisect each other.

## Cumulative Review

Page 242

1. a ray

2.  $35\frac{1}{2}$  in. to  $36\frac{1}{2}$  in.

3. 5

4. -4

5. -17

Sometimes;  $D$ ,  $E$ , and  $F$  can be noncollinear.

6. noncollinear.

7. always

8. undefined

9. 4

10.  $\overline{FD}$

11. right triangle

12. 15

13. 
$$\begin{aligned} \angle P &\cong \angle H, \angle Q \cong \angle G, \\ \angle R &\cong \angle B, \overline{PQ} \cong \overline{HG}, \\ \overline{QR} &\cong \overline{GB}, \overline{PR} \cong \overline{HB} \end{aligned}$$

14. ASA

15. 
$$\begin{aligned} E(b, b); F(2b, 0); \\ G(b, 0) \end{aligned}$$

