GEOMETRY

Name _____ Study-GUIDE: CH: 1–6 (MIDTERM) Date _____

REVIEW SEM-I

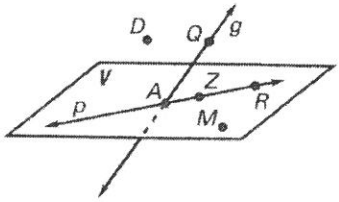
CHAPTER 1

Chapter Test B

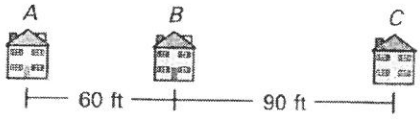
For use after Chapter 1

In Exercises 1–3, use the diagram to decide whether the statement is *true* or *false*.

1. Point R lies on line g.
2. Points A, M, R, and Z are coplanar.
3. Points A and Q are collinear.

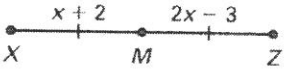


4. The diagram shows three houses on a street. Find the distance from House A to House C.

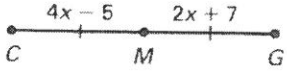


In each diagram, *M* is the midpoint of the segment. Find the indicated length.

5. XM

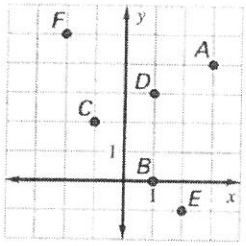


6. CG



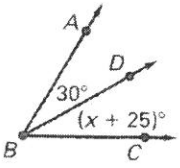
Find the exact distance between the points.

7. A and B
8. C and F
9. D and E

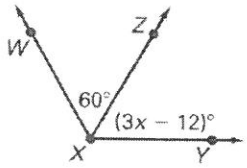


Use the given information to find the value of *x*.

10. $\angle ABD \cong \angle DBC$



11. $\angle WXZ \cong \angle ZXY$



12. Given that $\angle 1$ is a complement of $\angle 2$ and $m\angle 2 = 17°$, find $m\angle 1$.
13. Given that $\angle 3$ is a supplement of $\angle 4$ and $m\angle 3 = 46°$, find $m\angle 4$.

Answers

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____
13. _____

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CHAPTER 1 **Chapter Test B** *continued*
For use after Chapter 1

14. Two angles form a linear pair. The measure of one angle is four times greater than the measure of the other angle. Find the measure of each angle.

15. Two angles form a linear pair. The measure of one angle is six more than twice the measure of the other angle. Find the measure of each angle.

Tell whether the statement is *always*, *sometimes*, or *never* true.

16. A pentagon is a plane figure.

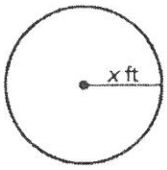
17. A triangle is concave.

18. A hexagon has six congruent sides.

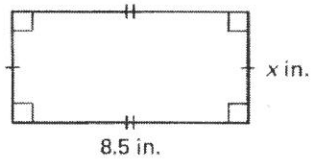
19. A quadrilateral is equiangular but not equilateral.

Use the given information to find the value of x. Use 3.14 for π.

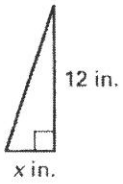
20. $C = 56.52$ feet



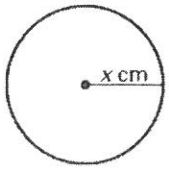
21. $P = 25$ inches



22. $A = 24$ square inches

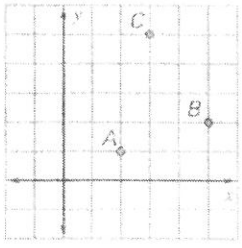


23. $A = 28.26$ square centimeters



24. A table is 6 feet long and 4 feet wide. A table cloth covers the entire table and there is 1 foot of extra cloth hanging over each edge of the table. What is the area of the table cloth?

25. Joe ran from Point A to Point C and Mike ran from Point B to Point C. About how much farther did Joe run than Mike? Round your answer to the nearest tenth. The distance between consecutive grid lines represents 1 yard.



Answers

14. _____

15. _____

16. _____

17. _____

18. _____

19. _____

20. _____

21. _____

22. _____

23. _____

24. _____

25. _____

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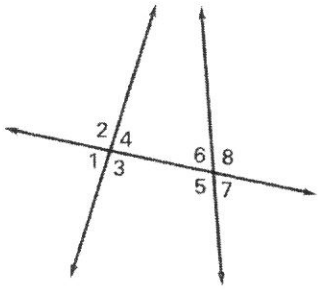
CHAPTER 3

Chapter Test B

For use after Chapter 3

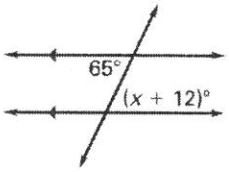
Identify the pairs of angles as *corresponding, alternate interior, alternate exterior, consecutive interior,* or *vertical* angles.

1. $\angle 1$ and $\angle 8$
2. $\angle 4$ and $\angle 5$
3. $\angle 4$ and $\angle 6$
4. $\angle 2$ and $\angle 3$
5. $\angle 3$ and $\angle 7$
6. $\angle 2$ and $\angle 7$

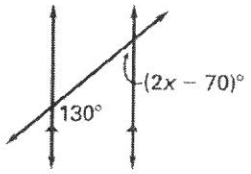


Find the value of *x*.

7.

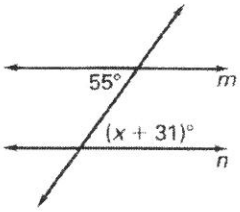


8.

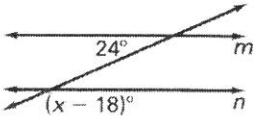


Find the value of *x* that makes $m \parallel n$.

9.



10.



Tell whether the lines through the given points are *parallel, perpendicular,* or *neither*.

11. Line 1: (1, 2), (2, 0)
    Line 2: (0, −1), (−2, −2)

12. Line 1: (−2, 1), (1, −1)
    Line 2: (1, 3), (4, 1)

13. Line 1: (0, 1), (1, 4)
    Line 2: (3, 2), (6, 3)

14. Line 1: (−1, 1), (1, 3)
    Line 2: (2, −1), (4, 1)

15. Quadrilateral $ABCD$ has vertices $A(1, 4)$, $B(3, 3)$, $C(1, -1)$, $D(-1, 0)$. Find the slopes of the sides and the lengths of the sides. What can you prove about quadrilateral $ABCD$?

Answers

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____
13. _____
14. _____
15. _____

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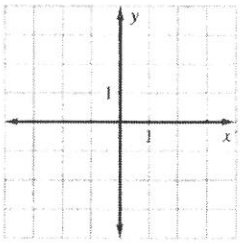
CHAPTER 3 **Chapter Test B** *continued*

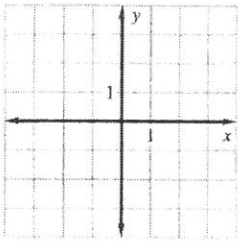
For use after Chapter 3

Graph the equation.

16. $y = -\frac{1}{4}x - 1$



17. $y = \frac{3}{2}x + \frac{1}{2}$



Write an equation of the line that passes through point *P* and is parallel to the line with the given equation.

18. $P(-1, 3), y = 4x - 2$

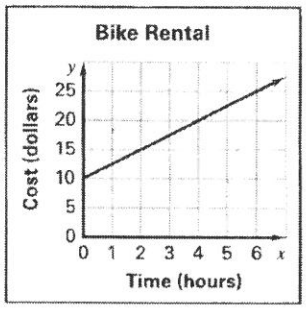
19. $P(2, 4), y = -3x$

Write an equation of the line that passes through point *P* and is perpendicular to the line with the given equation.

20. $P(0, 2), y = \frac{1}{2}x + 1$

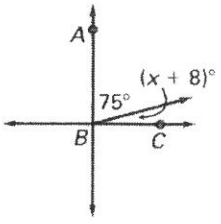
21. $P(4, 3), y = -x$

22. The graph models the total cost of renting a bike. Write an equation of the line. Explain the meaning of the slope and the y-intercept of the line.

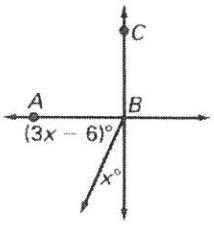


In the diagram, $\overleftrightarrow{AB} \perp \overleftrightarrow{BC}$. Find the value of *x*.

23.



24.



Find the taxicab distance between the two points.

25. $(7, -5), (-1, 4)$

26. $(-3, 9), (0, -1)$

Answers

16. See left.

17. See left.

18. _____

19. _____

20. _____

21. _____

22. _____

_____

_____

_____

_____

23. _____

24. _____

25. _____

26. _____

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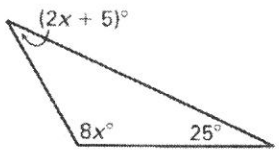
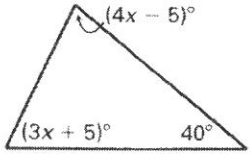
CHAPTER 4 Chapter Test B

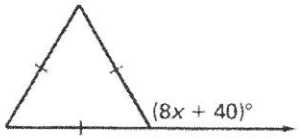
For use after Chapter 4

Find the value of *x*. Then classify the triangle by its angles.

1. 

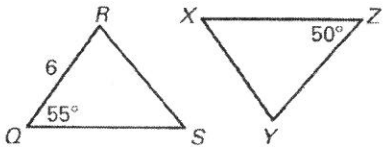
2. 

3. 

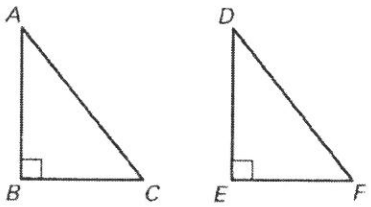
4. 

In the diagram, $\triangle QRS \cong \triangle XYZ$. Find the measure.

5. $m\angle R$
6. XY
7. $m\angle X$
8. $m\angle S$



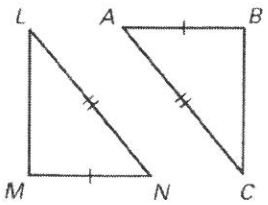
State the congruence that is needed to prove $\triangle ABC \cong \triangle DEF$ using the given postulate or theorem.



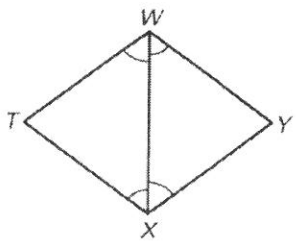
9. Given: $\overline{BC} \cong \overline{EF}$; Use the Hypotenuse-Leg Congruence Theorem.
10. Given: $\overline{AB} \cong \overline{DE}$, $\overline{AC} \cong \overline{DF}$; Use the SSS Congruence Postulate.
11. Given: $\angle A \cong \angle D$, $\angle B \cong \angle E$; Use the AAS Congruence Theorem.
12. Given: $\angle A \cong \angle D$, $\angle C \cong \angle F$; Use the ASA Congruence Postulate.

Decide whether the triangles can be proven congruent by the given postulate or theorem.

13. $\triangle LMN \cong \triangle CBA$ by HL



14. $\triangle TWX \cong \triangle YWX$ by ASA



Answers

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____
13. _____
14. _____

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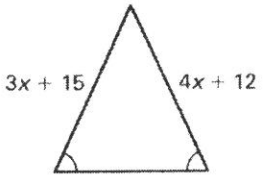
CHAPTER 4 **Chapter Test B** *continued*

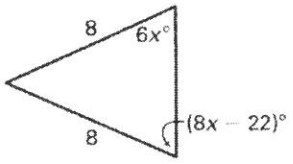
For use after Chapter 4

Find the value of *x*.

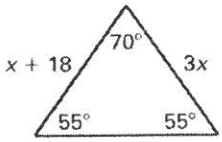
15.



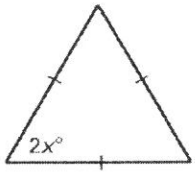
16.



17.



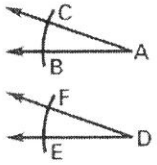
18.



19. Write a proof to justify that the construction for copying an angle is valid.

GIVEN: $\overline{AB} \cong \overline{DE}$, $\overline{AC} \cong \overline{DF}$, $\overline{BC} \cong \overline{EF}$

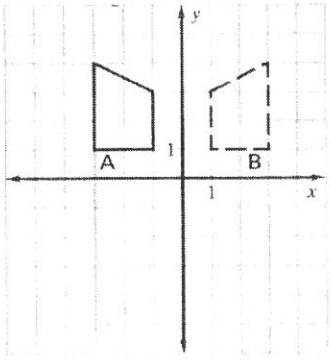
PROVE: $\angle D \cong \angle A$



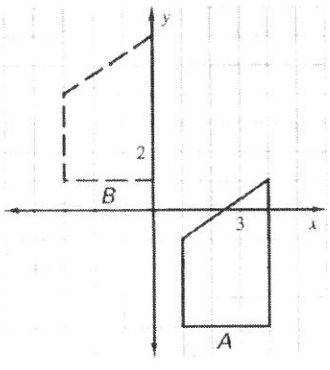
Statements	Reasons

Use coordinate notation to describe the transformation from Figure *A* to Figure *B*.

20.



21.



Answers

15. _____

16. _____

17. _____

18. _____

19. See left.

20. _____

21. _____

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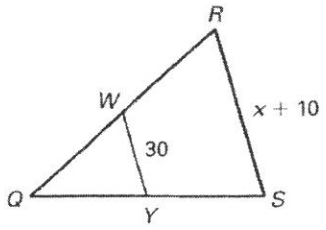
CHAPTER 5

Chapter Test B

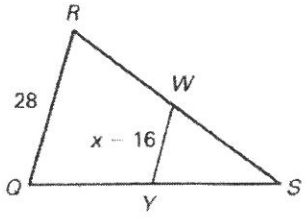
For use after Chapter 5

$\overline{WY}$ is the midsegment of $\triangle QRS$. Find the value of x.

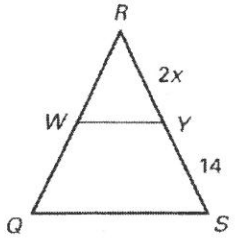
1.



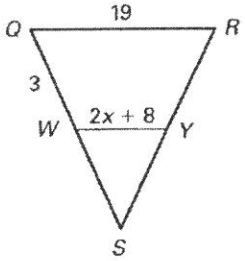
2.



3.

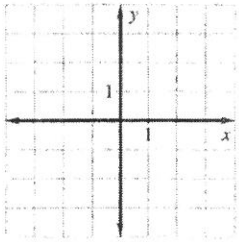


4.

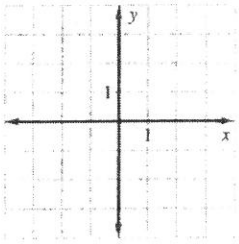


Place the figure in a coordinate plane in a convenient way. Give the coordinates of each vertex.

5. Isosceles right triangle: Leg length is 3.

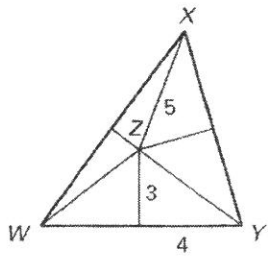


6. Rectangle: Length is 3 and width is 2.

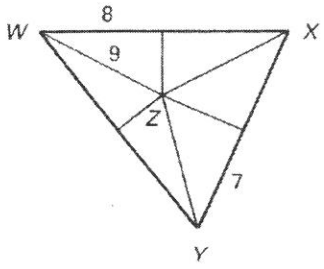


In the diagram, the perpendicular bisectors of $\triangle WXY$ meet at point Z. Find the indicated measure.

7. WZ



8. ZY



Answers

1. _____
2. _____
3. _____
4. _____
5. See left.
6. See left.
7. _____
8. _____

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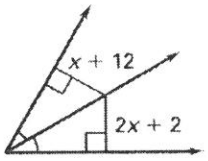
Name _____ Date _____

CHAPTER 5 **Chapter Test B** *continued*

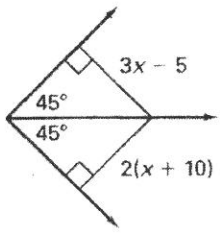
For use after Chapter 5

Use the information in the diagram to find *x*.

9.

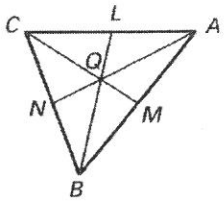


10.

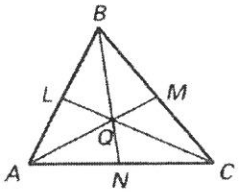


In △*ABC*, *Q* is the centroid. Find the indicated length.

11. $QC = 12$. Find QM.

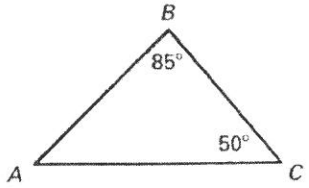


12. $QC = 6$. Find QL.

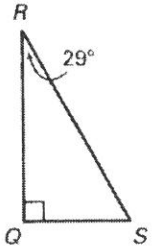


List the unknown sides in order from smallest to largest.

13.



14.

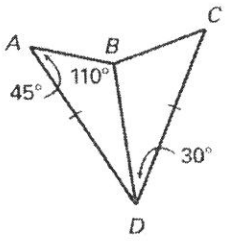


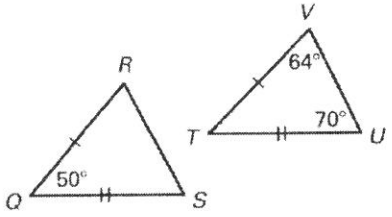
15. A triangle has one side of length 10 and another of length 6. Describe the possible lengths of the third side.

Complete with <, >, or =.

16. AB ___?___ BC

17. RS ___?___ VU





18. Suppose you wanted to prove the statement "If $x + y > 20$ and $y = 5$, then $x > 15$." What temporary assumption could you make to prove the conclusion indirectly?

Answers

9. _____

10. _____

11. _____

12. _____

13. _____

14. _____

15. _____

16. _____

17. _____

18. _____

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CHAPTER : 6 · GEOMETRY.

NAME: _____

Simplify the ratio.

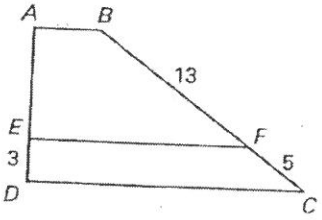
1. $\frac{3 \text{ gallons}}{27 \text{ quarts}}$
2. $\frac{500 \text{ mm}}{2.5 \text{ m}}$
3. $\frac{150 \text{ lb}}{100 \text{ oz}}$

Solve the proportion.

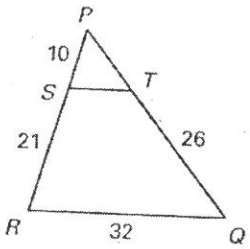
4. $\frac{6}{13} = \frac{3x}{91}$
5. $\frac{x+6}{x} = \frac{5}{4}$
6. $\frac{3}{10} = \frac{5x+1}{18x-6}$

Use the diagram and the given information to find the unknown length.

7. Given $\frac{BC}{CF} = \frac{AD}{DE}$, find AE.

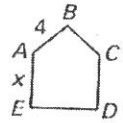


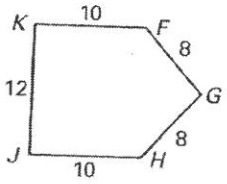
8. Given $\frac{PR}{PS} = \frac{RQ}{ST}$, find ST.



In the diagram, *ABCDE* ~ *FGHJK*.

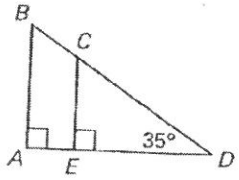
9. Find the value of x.
10. Find the perimeter of $ABCDE$.



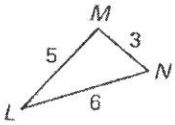


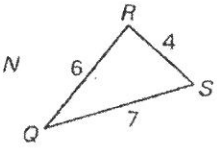
Determine whether the triangles are similar. If so, write a similarity statement and the postulate or theorem that justifies your answer.

11.



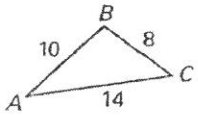
12.

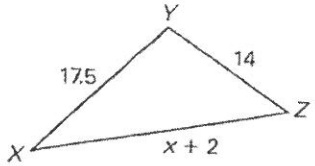




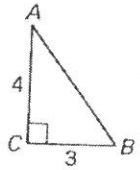
Determine the value of x that makes $\triangle ABC \sim \triangle XYZ$.

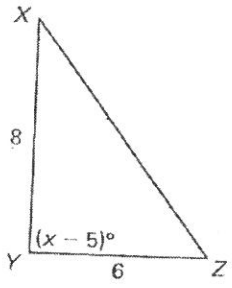
13.





14.





Answers

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
8. _____
9. _____
10. _____
11. _____
12. _____
13. _____
14. _____

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