

LESSON  
**9.1**

Name \_\_\_\_\_ Date \_\_\_\_\_

# Practice

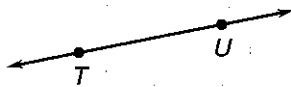
For use with pages 421-424

Match the sentence with its correct answer.

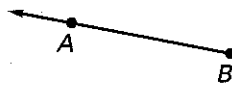
- |  |      |      |      |      |
|--|------|------|------|------|
| 1. A line has <u>  ?</u> endpoint(s).                  | A. 0 | B. 1 | C. 2 | D. 3 |
| 2. A ray has <u>  ?</u> endpoint(s).                   | A. 0 | B. 1 | C. 2 | D. 3 |
| 3. A segment has <u>  ?</u> endpoint(s).               | A. 0 | B. 1 | C. 2 | D. 3 |
| 4. Two intersecting lines meet at <u>  ?</u> point(s). | A. 0 | B. 1 | C. 2 | D. 3 |
| 5. Two parallel lines meet at <u>  ?</u> point(s).     | A. 0 | B. 1 | C. 2 | D. 3 |

Identify and name the *line*, *ray*, or *segment*.

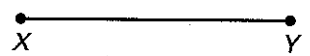
6.



7.

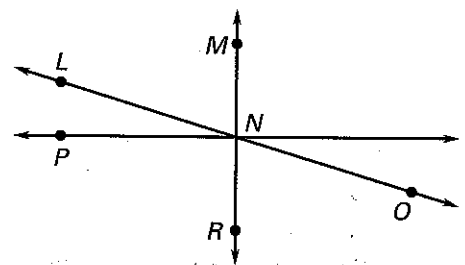


8.



Use the diagram at the right.

- Name 3 points.
- Name 2 rays.
- Name 3 lines.
- Name a segment that has *P* as an endpoint.
- Name  $\overrightarrow{MN}$  in another way.



22. a street

23. a house

24. the horizon

Decide whether the object would be best modeled by a point, a segment, a line, or a ray on a map or drawing.

20. parallel lines  $\overleftrightarrow{AB}$  and  $\overleftrightarrow{DE}$

21. intersecting lines  $\overleftrightarrow{AB}$  and  $\overleftrightarrow{AC}$

17.  $\overleftrightarrow{ED}$

18.  $\overleftrightarrow{WX}$

19.  $\overleftrightarrow{JK}$

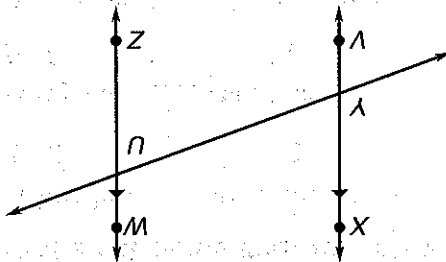
Sketch the figure described.

16. What is another way to write  $\overleftrightarrow{XY}$ ?  $\overleftrightarrow{WZ}$ ?

15. Which lines are parallel?

14. Which lines are intersecting?

Use the diagram at the right.



For use with pages 421-424

Practice



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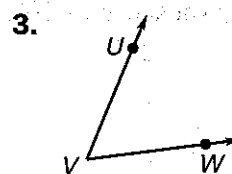
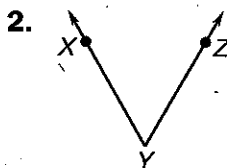
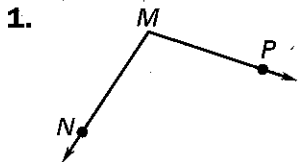
LESSON  
**9.2**

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# Practice

For use with pages 425-429

Name the angle in three ways.



Use a protractor to draw an angle that has the given measure.

4.  $23^\circ$

5.  $81^\circ$

6.  $145^\circ$

7.  $105^\circ$

8.  $57^\circ$

9.  $180^\circ$

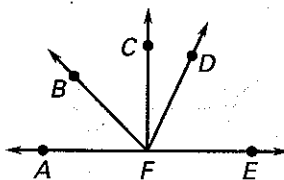
Use estimation to name an angle that has the given measure.

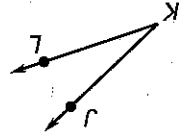
10.  $45^\circ$

11.  $90^\circ$

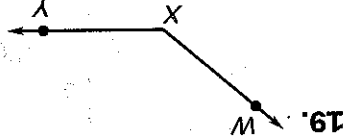
12.  $180^\circ$

13.  $115^\circ$

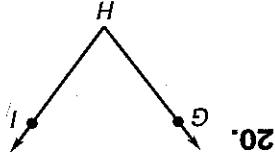




18.

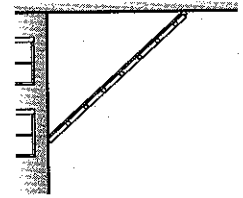


19.

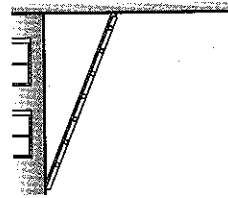


20.

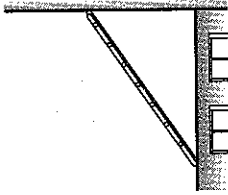
Tell whether the angle measure is between  $0^\circ$  and  $45^\circ$ ,  $45^\circ$  and  $90^\circ$ ,  $90^\circ$  and  $135^\circ$ , or  $135^\circ$  and  $180^\circ$ . Then estimate the measure of the angle.



15.



16.



17.

The diagram shows a ladder leaning against a building. Use a protractor to measure the angle the ladder makes with the ground.

14. Use a protractor to draw and label an angle formed by  $\overrightarrow{BA}$  and  $\overrightarrow{BC}$  that has a measure of  $10^\circ$ .

For use with pages 425-429

# Practice



Name \_\_\_\_\_

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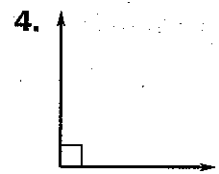
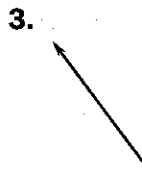
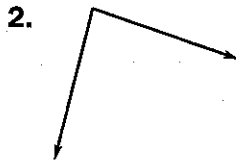
LESSON  
**9.3**

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# Practice

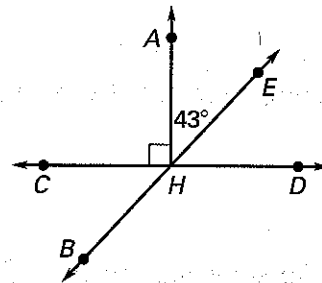
For use with pages 430–434

Estimate to classify the angle as *acute*, *right*, *obtuse*, or *straight*.



Use the diagram at the right.

5. Name a pair of vertical angles.
6. Name a pair of complementary angles.
7. Name a pair of supplementary angles.

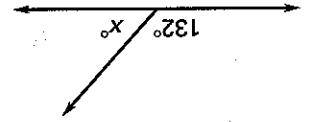


Use the diagram from Exercises 5–7. Find the angle measure.

- |                   |                   |                   |
|-------------------|-------------------|-------------------|
| 8. $m\angle DHE$  | 9. $m\angle DHA$  | 10. $m\angle BHC$ |
| 11. $m\angle CHE$ | 12. $m\angle BHD$ | 13. $m\angle BHA$ |

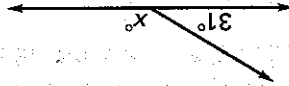
Tell whether the angle measures represent angles that are *complementary*, *supplementary*, or *neither*.

- |                           |                           |                          |
|---------------------------|---------------------------|--------------------------|
| 14. $114^\circ, 56^\circ$ | 15. $125^\circ, 55^\circ$ | 16. $26^\circ, 74^\circ$ |
|---------------------------|---------------------------|--------------------------|

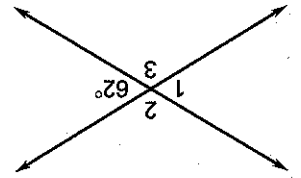


23.

Find the value of  $x$ .



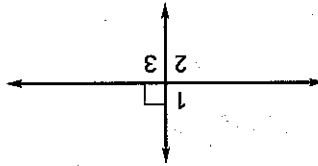
24.



21.

Name a pair of vertical angles. Find the measure of  $\angle 1$ ,  $\angle 2$ , and  $\angle 3$ .

Name a pair of vertical angles. Find the measure



22.

20. Draw an angle supplementary to an angle measuring  $52^\circ$ .

19. Draw an angle complementary to an angle measuring  $27^\circ$ .

18. Draw vertical angles that are acute. Label them  $\angle 1$  and  $\angle 2$ .

17. Draw vertical angles that are right angles.

In Exercises 17–20, use a protractor.

For use with pages 430–434

**Practice**



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**9.4**

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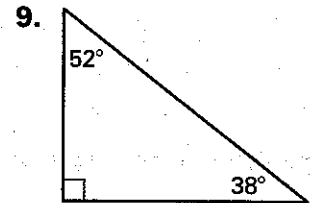
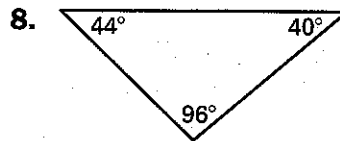
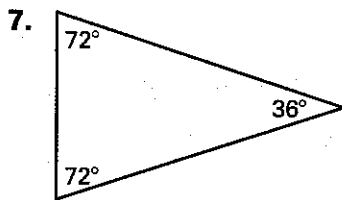
# Practice

For use with pages 435-441

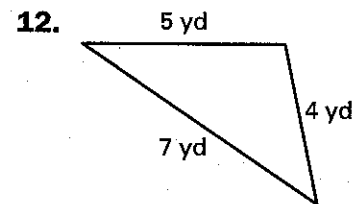
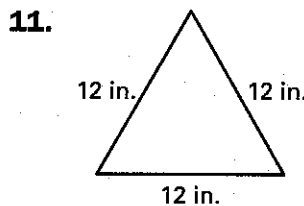
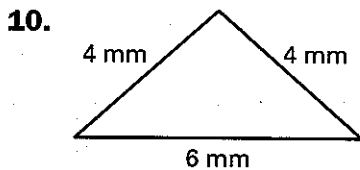
**Complete the statement.**

1. An equilateral triangle has   ?   side(s) of equal length.
2. A scalene triangle has   ?   side(s) of equal length.
3. An isosceles triangle has   ?   side(s) of equal length.
4. An acute triangle has   ?   *obtuse* angle(s).
5. An obtuse triangle has   ?   *acute* angle(s).
6. The sum of the angle measures of a triangle is   ?   degrees.

**Classify the triangle by its angles.**



**Classify the triangle by its sides.**



Use a protractor to draw the triangle described.

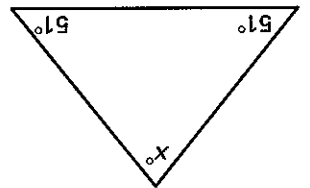
18. acute scalene

19. obtuse isosceles

Tell whether the angle measures are those of a triangle. If so, classify the triangle as *acute*, *right*, or *obtuse*.

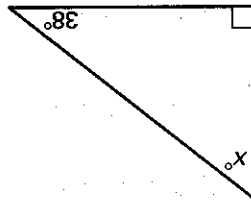
16.  $148^\circ, 21^\circ, 11^\circ$

17.  $36^\circ, 55^\circ, 89^\circ$

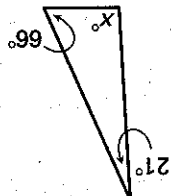


13.

Find the value of  $x$ .



14.



15.

For use with pages 435-441

# Practice



Remember: The angles of a triangle =  $180^\circ$

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LESSON  
**9.5**

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# Practice

For use with pages 444-448

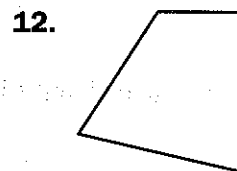
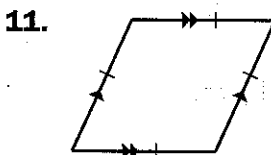
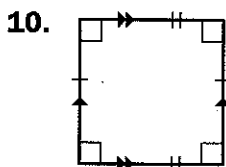
**Complete the statement.**

1. A   ?   is a quadrilateral with 2 pairs of parallel sides.
2. A rhombus is a parallelogram with 4 sides of   ?   length.
3. A   ?   is a plane figure formed by 4 segments called sides.
4. A square is a parallelogram with 4   ?   angles and   ?   sides of equal length.
5. A rectangle is a parallelogram with   ?   right angles.

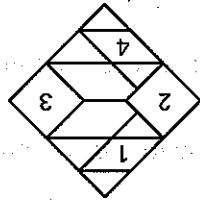
**Complete the statement by using *All* or *Some*.**

6.   ?   quadrilaterals are parallelograms.
7.   ?   squares are rhombuses.
8.   ?   rhombuses are quadrilaterals.
9.   ?   rectangles are squares.

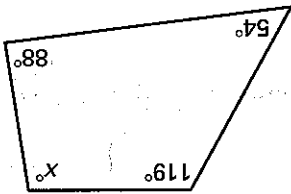
**Classify the quadrilateral in as many ways as possible.**



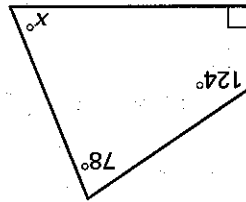
18. What type of quadrilateral is the entire object?



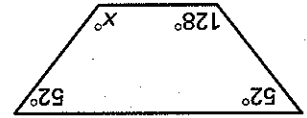
17. Identify the numbered quadrilaterals. In Exercises 17 and 18, use the picture at the right that shows the pattern in the design as they appear. among segments in the design are as they appear.



16.



15.



14.

The sum of the angles of a quadrilateral is  $360^\circ$ . Use this information to find the value of  $x$ .

13. Draw a parallelogram that is not a rectangle.

For use with pages 444-448

Practice



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**LESSON**  
**9.6**

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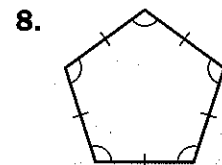
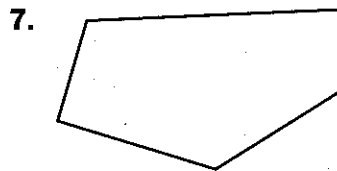
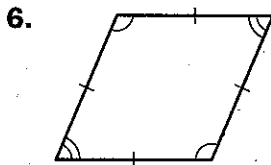
**Practice**

For use with pages 449-453

**Match the polygon with its correct number of sides.**

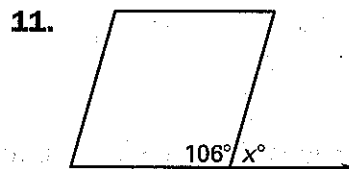
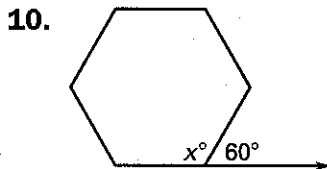
- |                  |            |
|------------------|------------|
| 1. triangle      | A. 5 sides |
| 2. quadrilateral | B. 8 sides |
| 3. pentagon      | C. 3 sides |
| 4. hexagon       | D. 4 sides |
| 5. octagon       | E. 6 sides |

**Classify the polygon and tell whether it is regular.**

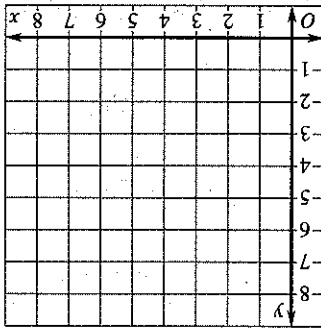
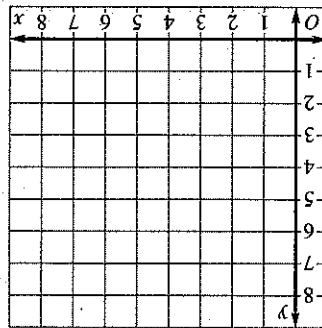
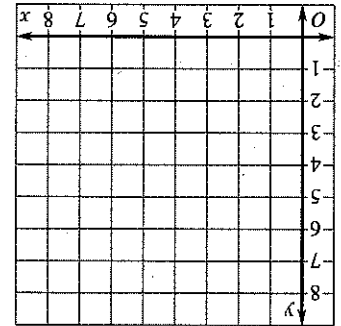


9. How many diagonals can be drawn from one vertex of a regular octagon?

**Use supplementary angles to find the value of  $x$ .**



15. A regular pentagon has a side length of 7 feet. What is the perimeter of this regular pentagon?
16. The perimeter of a regular hexagon is 54 millimeters. What is the length of each side of this hexagon?



- Graph the points on a coordinate grid and connect them in order to form a polygon. Then, classify the polygon.
12. A(1, 6), B(1, 1), C(6, 1)  
 13. A(3, 2), B(2, 4), C(5, 7), D(8, 4), E(7, 2)  
 14. A(1, 1), B(7, 1), C(6, 8), D(3, 7)

For use with pages 449-453

Practice



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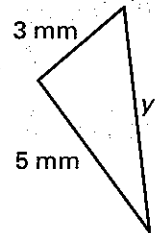
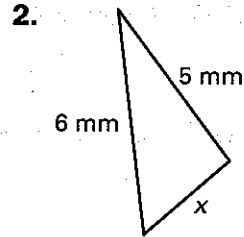
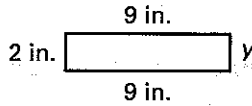
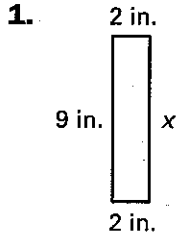
LESSON  
**9.7**

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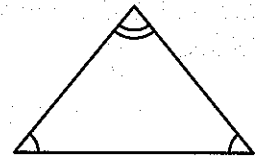
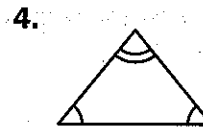
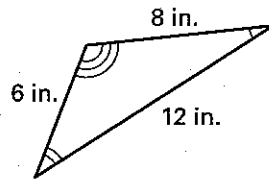
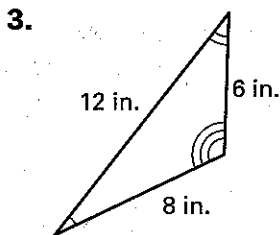
# Practice

For use with pages 454-457

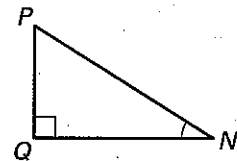
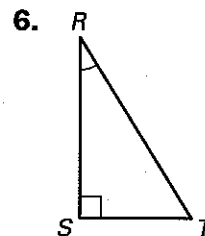
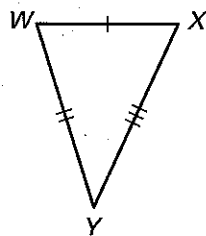
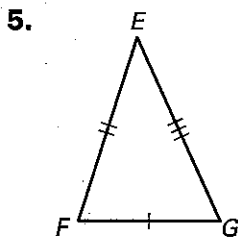
The two figures are congruent. Find the values of  $x$  and  $y$ .

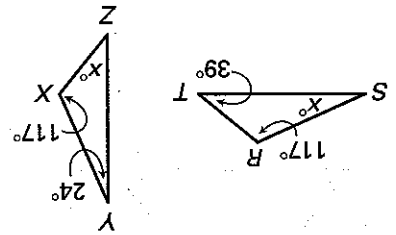


Tell whether the triangles are *similar*, *congruent*, or *neither*.



List the corresponding parts of the triangles.





11.  $\triangle RST$  and  $\triangle XYZ$  are similar. List the corresponding parts. Then find  $m\angle S$  and  $m\angle Z$ .

10. If  $\triangle BCD$  is congruent to  $\triangle FGH$ , then  $\overline{CD}$  is the same length as  $\overline{GH}$ .

9. If  $\triangle BCD$  is similar to  $\triangle FGH$ , then  $\overline{CD}$  is the same length as  $\overline{GH}$ .

8. If  $\triangle BCD$  is similar to  $\triangle FGH$ , then  $\angle B$  has the same measure as  $\angle F$ .

7. If  $\triangle BCD$  is congruent to  $\triangle FGH$ , then  $\angle B$  corresponds to  $\angle F$ .

In Exercises 7–10, tell whether the statement is true or false.

For use with pages 454–457

Practice



Name \_\_\_\_\_

Date \_\_\_\_\_

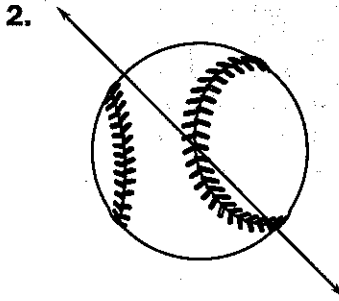
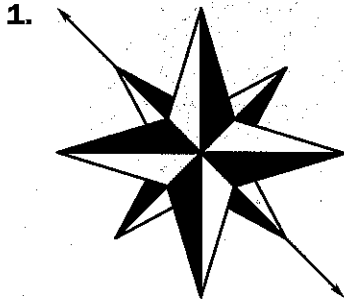
LESSON  
**9.8**

Name \_\_\_\_\_ Date \_\_\_\_\_

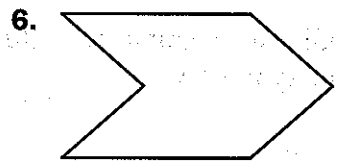
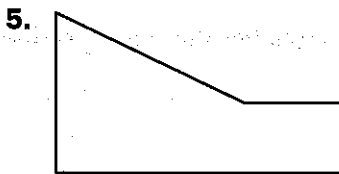
# Practice

For use with pages 458-463

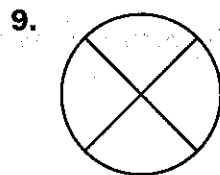
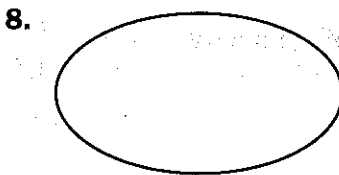
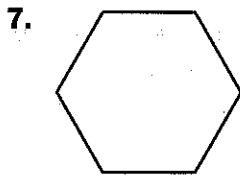
Tell whether the line shown is a line of symmetry.



Tell whether the figure has line symmetry. If so, draw the line of symmetry.



Find the number of lines of symmetry.

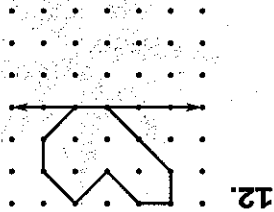
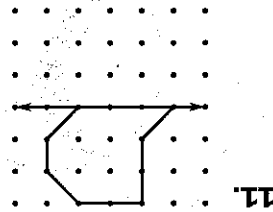
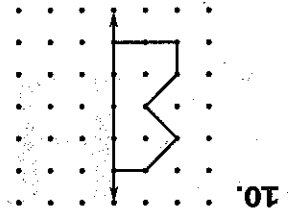


16. Draw a figure that has two lines of symmetry.

15. Draw a figure that has one line of symmetry.

14. Give an example of a letter of the alphabet that has two lines of symmetry.

13. Give an example of a letter of the alphabet that has one line of symmetry.



Complete the figure so that it has the line of symmetry shown.

For use with pages 458-463

# Practice



Name \_\_\_\_\_

Date \_\_\_\_\_