

Chapter 8 Review.

1 Choose the statement that is NOT ALWAYS true. For any parallelogram ____.

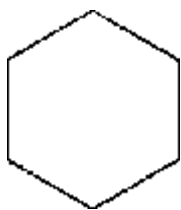
- A** the diagonals bisect each other **B** opposite angles are congruent **C** the diagonals are perpendicular
D opposite sides are congruent

2 How many triangles are formed by drawing diagonals from one vertex in the figure? Find the sum of the measures of the angles in the figure.

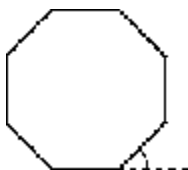


3 The sum of the measures of the interior angles of a convex quadrilateral is ____.

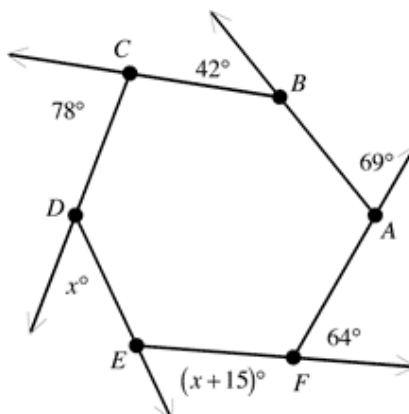
4 The measure of each interior angle of a regular hexagon is ____.



5 The measure of each exterior angle of a regular octagon is ____.



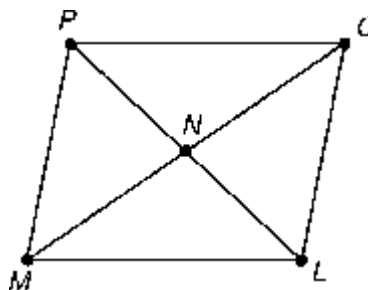
6 Find the value of x . (The figure may not be drawn to scale.)



7 Find the measure of each exterior angle of a regular polygon with 24 sides.

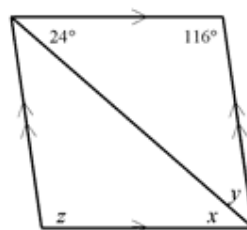
8 Find the measure of one of the exterior angles of a regular polygon with nine sides.

9 For parallelogram $PQLM$ below, if $m\angle PML = 75^\circ$, then $m\angle PQL = \underline{\hspace{1cm}}^\circ$ and $m\angle MPQ = \underline{\hspace{1cm}}^\circ$.

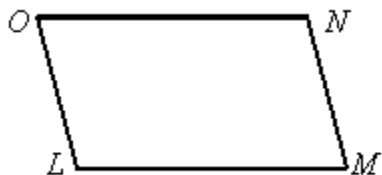


10 Consecutive angles in a parallelogram are always ____.

11 Find the value of the variables in the parallelogram.



- 12** If $ON = 6x - 6$, $LM = 5x + 2$, $NM = x + 5$, and $OL = 3y + 7$, find the values of x and y , given that $LMNO$ is a parallelogram.



- 13** $(2, 3)$ and $(3, 1)$ are opposite vertices in a parallelogram. If $(0, 0)$ is the third vertex, then the fourth vertex is _____.

- 14** Which statement is true?

A All quadrilaterals are squares. **B** All rectangles are quadrilaterals. **C** All rectangles are squares. **D** All quadrilaterals are rectangles.

- 15** Choose the statement that is NOT ALWAYS true. For a rhombus _____.

A each diagonal bisects a pair of opposite angles
B all four sides are congruent **C** the diagonals are congruent **D** the diagonals are perpendicular

- 16** The diagonals of a parallelogram always _____.

A are congruent **B** are parallel **C** bisect each other
D are perpendicular

- 17** Which statement is NOT always true of a rhombus?

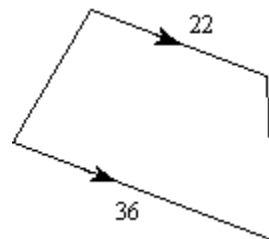
A The diagonals are perpendicular to each other.
B The diagonals bisect each other. **C** Each diagonal is longer than at least one side. **D** The sum of the diagonals is less than the perimeter.

- 18** Isosceles trapezoid $JKLM$ has legs \overline{JK} and \overline{LM} , and base \overline{KL} . If $JK = 8x + 5$, $KL = 4x + 7$, and $LM = 10x + 4$, find the value of x .

- 19** Choose the statement that is NOT always true. For an isosceles trapezoid _____.

A the diagonals are congruent **B** the base angles are congruent **C** the diagonals are perpendicular **D** the legs are congruent

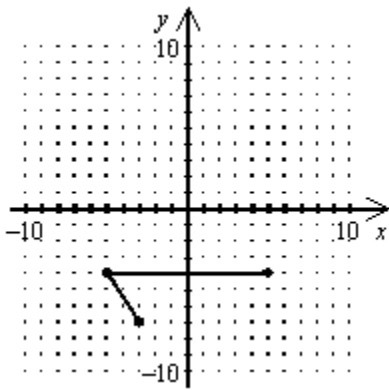
- 20** For the trapezoid shown below, the measure of the midsegment is _____.



- 21** Draw a kite.

- 22** Which type of quadrilateral has no parallel sides?

- 23** Three vertices of an isosceles trapezoid are shown in the figure below.



What are the coordinates of the missing vertex that make the y -axis the line of symmetry?

- 24** The coordinates of quadrilateral $PQRS$ are $P(-3, 0)$, $Q(0, 4)$, $R(4, 1)$, and $S(1, -3)$. What kind of quadrilateral is this?

- 25** Use slope or the Distance Formula to determine the most precise name for the figure: $A(-5, -6)$, $B(-1, -1)$, $C(4, 3)$, $D(0, -2)$.

- 30** Which statement is false?

A Some squares are quadrilaterals. **B** All squares are parallelograms. **C** No squares are kites. **D** All parallelograms are rectangles.

- 31** Which statement is false?

A Every kite is a square. **B** No rhombuses are kites. **C** All squares are quadrilaterals. **D** Some rhombuses are squares.

- 32** Which statement is false?

A Every rectangle is a quadrilateral. **B** All squares are parallelograms. **C** All parallelograms are squares. **D** Every rectangle is a parallelogram.

- 33** Which statement is false?

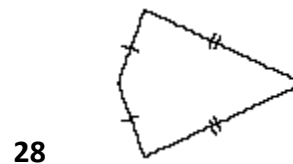
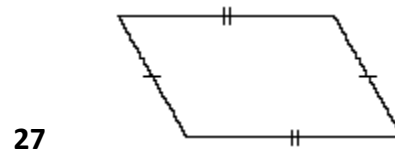
A Every kite is a rectangle. **B** A rhombus is not a kite. **C** All squares are rhombuses. **D** All squares are quadrilaterals.

- 34** Which statement is false?

A Some parallelograms are rhombuses. **B** All rhombuses are parallelograms. **C** No squares are kites. **D** Every rectangle is a square.

- 26** If all four sides of a quadrilateral are congruent, the quadrilateral is a _____.

#27-28: What kind of quadrilateral is each of these?



- 29** Which statement is false? **A** All squares are rectangles. **B** No squares are kites. **C** All rhombuses are rectangles. **D** All squares are rhombuses.

35 Which statement is false?

A Every kite is a rhombus. **B** Every rectangle is a parallelogram. **C** All squares are rectangles. **D** All squares are quadrilaterals.

36 Which statement is false?

A Some rhombuses are rectangles. **B** All squares are parallelograms. **C** All parallelograms are rhombuses. **D** All rhombuses are quadrilaterals.

37 Which statement is false?

A All parallelograms are quadrilaterals. **B** All rhombuses are quadrilaterals. **C** Every kite is a parallelogram. **D** Every rectangle is a quadrilateral.

38 Which statement is false?

A All rhombuses are quadrilaterals. **B** Every quadrilateral is a square. **C** Every rectangle is a quadrilateral. **D** The diagonals of a rectangle are congruent..

39 Which statement is false?

A All squares are parallelograms. **B** All parallelograms are rectangles. **C** No squares are kites. **D** Some squares are quadrilaterals.

40 Which statement is false?

A Some squares are quadrilaterals. **B** All squares are parallelograms. **C** All parallelograms are rectangles. **D** No squares are kites.

41 Which statement is false?

A Every rectangle is a quadrilateral. **B** Every quadrilateral is a square. **C** Opposite angles of a parallelogram are congruent. **D** All rhombuses are quadrilaterals.

42 Which statement is false?

A Every quadrilateral is a square. **B** All rhombuses are quadrilaterals. **C** The diagonals of a kite are perpendicular. **D** Every rectangle is a quadrilateral.

43 Which statement is false?

A All squares are parallelograms. **B** All rectangles are quadrilaterals. **C** Every parallelogram is a square. **D** All rectangles are parallelograms.

44 Which statement is false?

A Some rhombuses are rectangles. **B** If a quadrilateral is a parallelogram, then it is a kite. **C** All squares are rectangles. **D** If a quadrilateral is a square, then it is a parallelogram.

Chapter 8 Review.

Answer Section

1 C

2 7 sides; sum = 1260°

3 360°

4 120°

5 45°

6 46

7 15°

8 40°

9 $m\angle PQL = 75^\circ$; $m\angle MPQ = 105^\circ$

10 supplementary angles

11 $x = 24^\circ$, $y = 40^\circ$, $z = 116^\circ$

12 $x = 8$; $y = 2$

13 $(5, 4)$

14 B

15 C

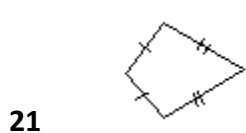
16 C

17 C

18 $\frac{1}{2}$

19 C

20 29



22 kite

23 $(3, -7)$

24 a square

25 rhombus

26 a rhombus

27 parallelogram

28 kite

29 C

30 D

31 A

32 C

33 A

34 D

35 A

36 C

37 C

38 B

39 B

40 C

41 B

42 A

43 C

44 B