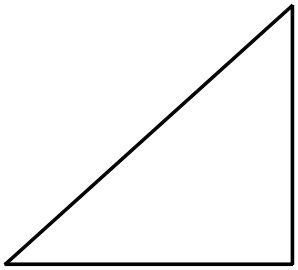
Name_____

Chapter 8 Review

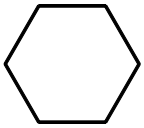
1. Determine if the figure below is a polygon. If it is not a polygon, explain why.

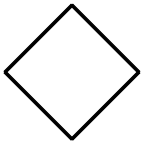


2. Which figure below is NOT a polygon?

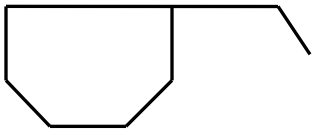
[A] 

[B] 

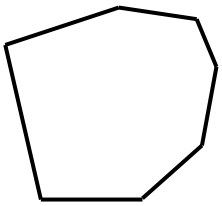
[C] 

[D] 

3. Explain why the figure shown does not satisfy the definition of a polygon.

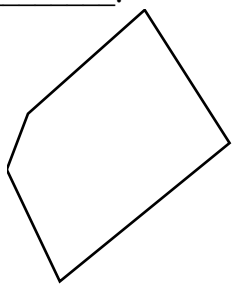


4. The figure below is an example of a(n) _____.



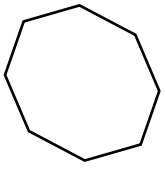
[A] heptagon [B] hexagon [C] octagon [D] nonagon

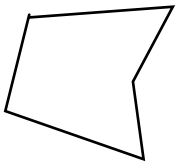
5. The figure shown below _____.

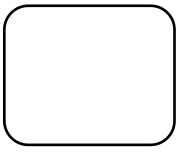


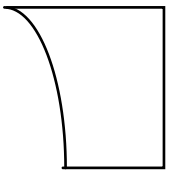
[A] is a heptagon [B] is a quadrilateral [C] is a hexagon [D] is a pentagon

6. Identify the convex polygon.

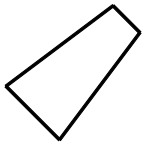
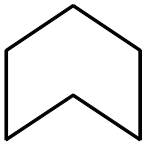
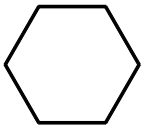
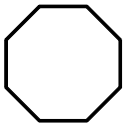
[A] 

[B] 

[C] 

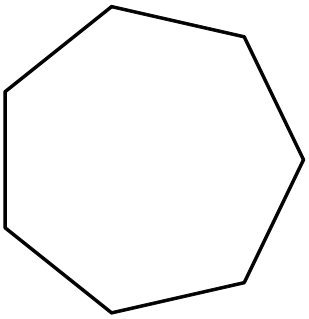
[D] 

7. Which figure below is NOT a convex polygon?

[A]  [B]  [C]  [D] 

8. Name a polygon with 6 sides.

9. Name the regular polygon.



10. Which one of the statements below is FALSE?

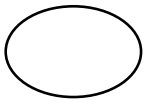
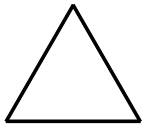
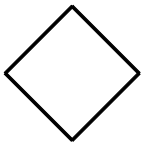
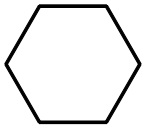
[A] A hexagon has 6 angles. [B] A pentagon has 8 sides.

[C] A decagon has 10 angles. [D] A quadrilateral has 4 sides.

11. Name a polygon with 5 sides.

[A] triangle [B] quadrilateral [C] pentagon [D] hexagon

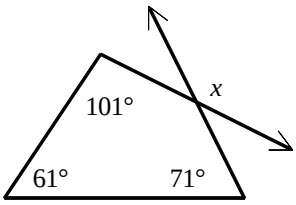
12. Which figure below is NOT a regular polygon?

[A]  [B]  [C]  [D] 

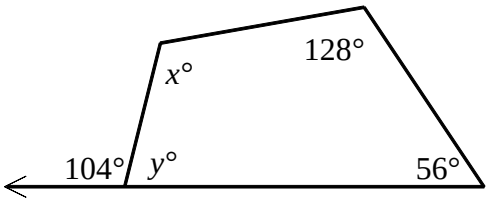
13. How many diagonals does a convex pentagon have?

14. Find the measure of the missing angle.

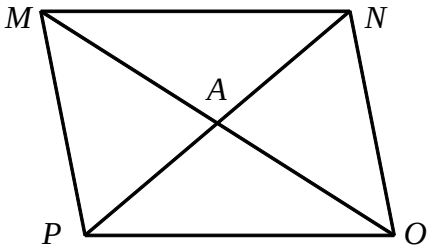
15. Find the value of *x*.



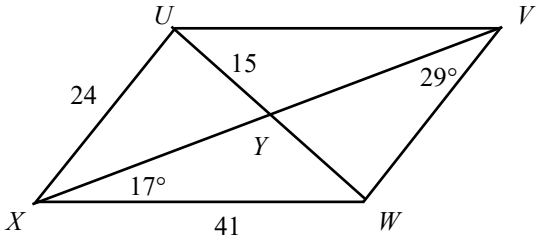

16. Find *x* and *y*.




17. Find *AM* in the parallelogram if $PN = 6$ and $MO = 18$.



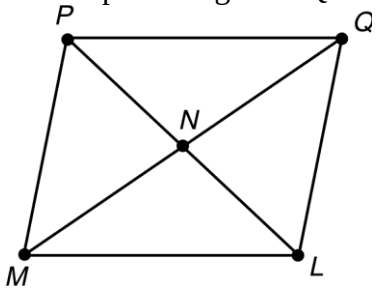

18. Refer to the figure below.




Given: *UVWX* is a parallelogram, $m\measuredangle WXV = 17°$, $m\measuredangle WVX = 29°$, $XW = 41$, $UX = 24$, $UY = 15$

A. Find $m\measuredangle WVU$.  B. Find *WV*.
C. Find $m\measuredangle XUV$.  D. Find *UW*.

19. For parallelogram *PQLM* below, if $m\measuredangle PML = 83°$, then $m\measuredangle PQL =$_____ .




[A] 97°  [B] 83°  [C] $m\measuredangle QLM$  [D] $m\measuredangle PQM$

20. Consecutive angles in a parallelogram are always _____.

[A] vertical angles [B] complementary angles

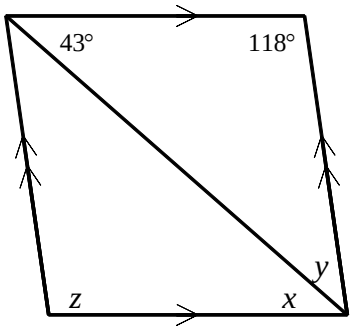
[C] supplementary angles [D] congruent angles

21. Choose the statement that is NOT ALWAYS true.
For any parallelogram _____.

[A] the diagonals are perpendicular [B] the diagonals bisect each other

[C] opposite angles are congruent [D] opposite sides are congruent

22. Find the value of the variables in the parallelogram.




[A] $x = 43°$, $y = 19°$, $z = 118°$ [B] $x = 59°$, $y = 21.5°$, $z = 137°$

[C] $x = 19°$, $y = 43°$, $z = 118°$ [D] $x = 21.5°$, $y = 59°$, $z = 137°$

23. Which statement is true?

[A] All rectangles are squares. [B] All rectangles are quadrilaterals.

[C] All quadrilaterals are rectangles. [D] All quadrilaterals are squares.

24. If the diagonals of a parallelogram are equal in length, then the parallelogram is also what type of figure?

25. The diagonals of a parallelogram always _____.

[A] are perpendicular [B] are parallel [C] are congruent [D] bisect each other

26. Isosceles trapezoid *ABCD* has legs $\overline{AB}$ and $\overline{CD}$, and base $\overline{BC}$. If $AB = 7y - 9, BC = 5y + 3$, and $CD = 2y + 2$. Find the value of $y$.

27. 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*.

[A] $\frac{1}{2}$ [B] $-\frac{1}{2}$ [C] $-1$ [D] $0$

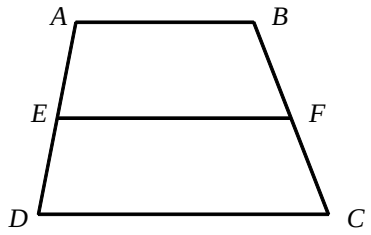
28. Choose the statement that is NOT always true.
For an isosceles trapezoid _____.

[A] the base angles are congruent [B] the legs are congruent

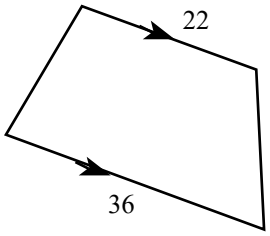
[C] the diagonals are perpendicular [D] the diagonals are congruent

29. In what type of trapezoid are the base angles congruent?

30. Given: Trapezoid *ABCD* with midsegment $\overline{EF}$. If $AB = 19$ and $DC = 31$, find the length of $\overline{EF}$.

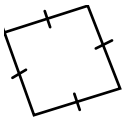
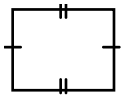
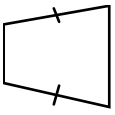
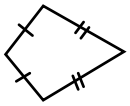



31. For the trapezoid shown below, the measure of the midsegment is _____.




[A] 29 [B] 25 [C] 30 [D] 58

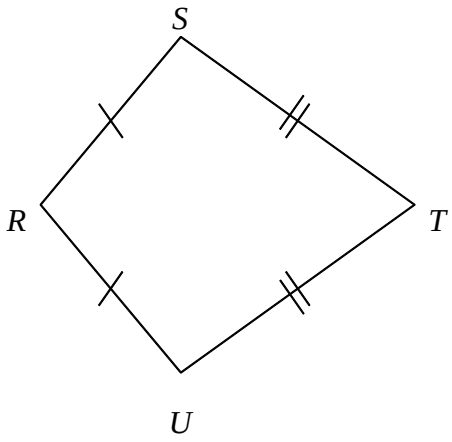
32. Choose the figure below which satisfies the definition of a kite.

[A]  [B]  [C]  [D] 

33. Which type of quadrilateral has no parallel sides?

[A] trapezoid [B] rectangle [C] rhombus [D] kite

34. Find $m\measuredangle T$ in the diagram, if $m\measuredangle R = 150°$ and $m\measuredangle S = 70°$.

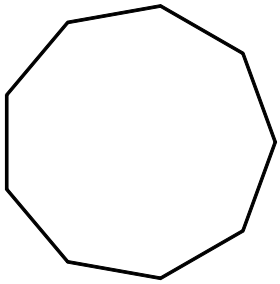



35. If all four sides of a quadrilateral are congruent, the quadrilateral is _____.

[A] a kite [B] a trapezoid [C] a rhombus [D] a nonsquare rectangle

36. Find the sum of the measures of the interior angles of a decagon.

37. Find the sum of the measures of the interior angles in the figure.



38. A regular pentagon has five congruent interior angles. What is the measure of each angle?

39. Find the number of sides of a convex polygon if the measures of its interior angles have a sum of 1080°.

40. Determine the number of sides of a regular polygon if each interior angle measure is $135°$.

41. Find the measure of an interior angle and an exterior angle of a regular polygon with 9 sides.

42. What is the measure of each exterior angle in a regular pentagon?

[1] The figure is a polygon.

[2] [B]

[3] Answers vary; for example, not every side intersects exactly two other sides.

[4] [A]

[5] [D]

[6] [A]

[7] [B]

[8] hexagon

[9] heptagon

[10] [B]

[11] [C]

[12] [A]

[13] 5

[14] 64°

[15] 127°

[16] $x = 100,\ y = 76$

[17] 9

[18] A. $46°$ B.24 C. $134°$ D. 30

[19] [B]

[20] [C]

[21] [A]

[22] [A]

[23] [B]

[24] A rectangle

[25] [D]

[26] $\frac{11}{5}$

[27] [A]

[28] [C]

[29] an isosceles trapezoid

[30] 25

[31] [A]

[32] [D]

[33] [D]

[34] $70°$

[35] [C]

[36] $1440°$

[37] $1260°$

[38] $108°$

[39] 8

[40] 8

[41] 140; 40

[42] $72°$