#36

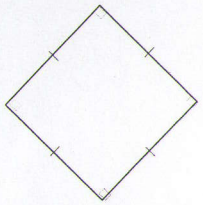
Name: _____ Per. ____

Geometry Test Chapter 6 PRACTICE TEST with KEY.

Multiple Choice

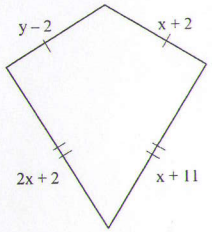
Identify the choice that best completes the statement or answers the question.

1. Judging by appearance, classify the figure in as many ways as possible.



a. rectangle, square, quadrilateral, parallelogram, rhombus
b. rectangle, square, parallelogram
c. rhombus, trapezoid, quadrilateral, square
d. square, rectangle, quadrilateral

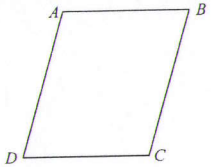
2. Find the values of the variables and the lengths of the sides of this kite.



a. $x = 9, y = 13$; 7, 15
b. $x = 13, y = 9$; 7, 15
c. $x = 9, y = 13$; 11, 20
d. $x = 13, y = 9$; 11, 11

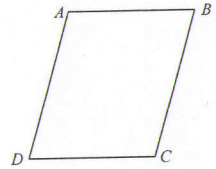
3. Which statement is true?
a. All quadrilaterals are rectangles.
b. All quadrilaterals are squares.
c. All rectangles are quadrilaterals.
d. All quadrilaterals are parallelograms.

4. *ABCD* is a parallelogram. If $m\angle CDA = 66$, then $m\angle BCD =$ ____?____. The diagram is not to scale.



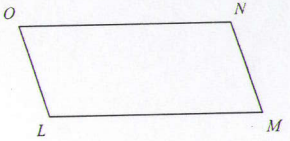
a. 66
b. 124
c. 114
d. 132

5. *ABCD* is a parallelogram. If $m\angle DAB = 115$, then $m\angle BCD =$ ____?____. The diagram is not to scale.



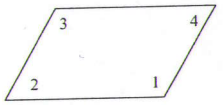
a. 125
b. 65
c. 75
d. 115

6. *LMNO* is a parallelogram. If $NM = x + 15$ and $OL = 3x + 5$ find the value of x and then find NM and OL.



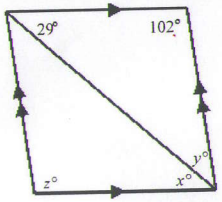
a. $x = 7, NM = 20, OL = 22$
b. $x = 5, NM = 20, OL = 20$
c. $x = 7, NM = 22, OL = 22$
d. $x = 5, NM = 22, OL = 20$

7. For the parallelogram, if $m\angle 2 = 5x - 28$ and $m\angle 4 = 3x - 10$, find $m\angle 3$. The diagram is not to scale.



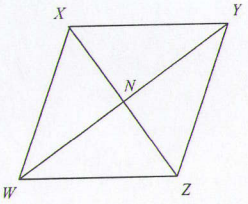
a. 9
b. 17
c. 173
d. 163

8. Find the values of the variables in the parallelogram. The diagram is not to scale.



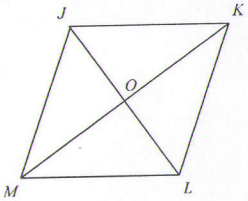
a. $x = 49, y = 29, z = 102$
b. $x = 29, y = 49, z = 131$
c. $x = 49, y = 49, z = 131$
d. $x = 29, y = 49, z = 102$

9. *WXYZ* is a parallelogram. Name an angle congruent to $\angle WZY$.



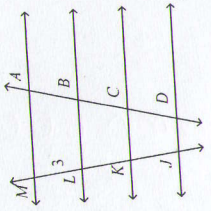
a. $\angle ZXY$
b. $\angle XWZ$
c. $\angle ZXW$
d. $\angle WXY$

10. In the parallelogram, $m\angle KLO = 68$ and $m\angle MLO = 61$. Find $\angle KJM$. The diagram is not to scale.



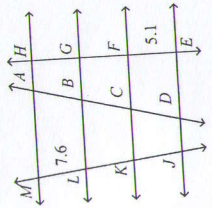
a. 119
b. 61
c. 129
d. 68

11. In the figure, the horizontal lines are parallel and $AB = BC = CD$. Find JM. The diagram is not to scale.



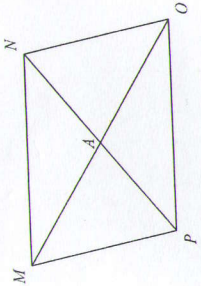
a. 9
b. 12
c. 6
d. 3

12. In the figure, the horizontal lines are parallel and $AB = BC = CD$. Find KL and FG. The diagram is not to scale.



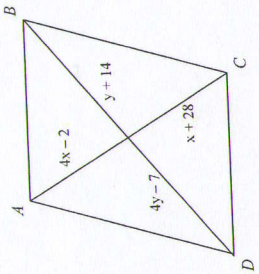
a. $KL = 7.6, FG = 7.6$
b. $KL = 5.1, FG = 7.6$
c. $KL = 5.1, FG = 5.1$
d. $KL = 7.6, FG = 5.1$

13. Find AM in the parallelogram if $PN = 9$ and $AO = 4$. The diagram is not to scale.



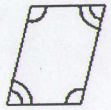
a. 8
b. 4
c. 9
d. 4.5

14. Find values of x and y for which *ABCD* must be a parallelogram. The diagram is not to scale.



a. $x = 10, y = 38$
b. $x = 10, y = 21$
c. $x = 10, y = 7$
d. $x = 7, y = 10$

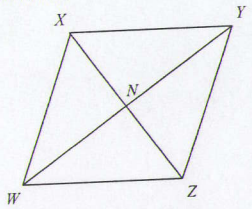
15. Based on the information in the diagram, can you prove that the figure is a parallelogram? Explain.



a. Yes; opposite sides are congruent.
b. Yes; opposite angles are congruent.
c. No; you cannot prove that the quadrilateral is a parallelogram.
d. Yes; two opposite sides are both parallel and congruent.

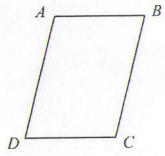
16. Based on the information given, can you determine that the quadrilateral must be a parallelogram? Explain.

Given: $\overline{XY} \cong \overline{WZ}$ and $\overline{XW} \cong \overline{YZ}$



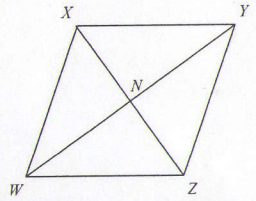
a. No; you cannot determine that the quadrilateral is a parallelogram.
b. Yes; two opposite sides are both parallel and congruent.
c. Yes; opposite sides are congruent.
d. Yes; diagonals of a parallelogram bisect each other.

17. If $m\angle B = m\angle D = 41$, find $m\angle C$ so that quadrilateral $ABCD$ is a parallelogram. The diagram is not to scale.



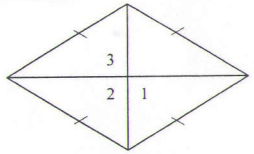
a. 41
b. 139
c. 82
d. 278

18. Which statement can you use to conclude that quadrilateral $XYZW$ is a parallelogram?



a. $\overline{XW} \cong \overline{YZ}$ and $\overline{XY} \cong \overline{WZ}$
b. $\overline{XW} \cong \overline{WZ}$ and $\overline{XY} \cong \overline{WZ}$
c. $\overline{YN} = \overline{NX}$ and $\overline{XN} = \overline{NY}$
d. $\overline{XW} \cong \overline{YZ}$ and $\overline{XY} \cong \overline{YZ}$

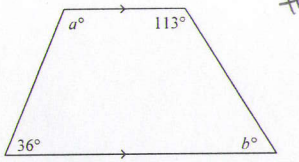
19. In the rhombus, $m\angle 1 = 6x$, $m\angle 2 = x + y$, and $m\angle 3 = 18z$. Find the value of each variable. The diagram is not to scale.



a. $x = 15, y = 165, z = 10$
b. $x = 30, y = 75, z = 10$
c. $x = 15, y = 75, z = 5$
d. $x = 30, y = 165, z = 5$

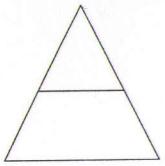
20. $DEFG$ is a rectangle. $DF = 5x - 5$ and $EG = x + 11$. Find the value of x and the length of each diagonal.
a. $x = 4, DF = 13, EG = 13$
b. $x = 4, DF = 15, EG = 18$
c. $x = 4, DF = 15, EG = 15$
d. $x = 2, DF = 13, EG = 13$

21. Find the values of a and b. The diagram is not to scale.



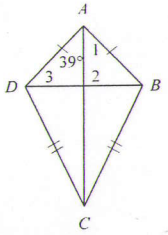
a. $a = 144, b = 67$
b. $a = 144, b = 36$
c. $a = 113, b = 67$
d. $a = 113, b = 36$

22. The isosceles trapezoid is part of an isosceles triangle with a 46° vertex angle. What is the measure of an acute base angle of the trapezoid? Of an obtuse base angle? The diagram is not to scale.



a. 67°; 134°
b. 67°; 113°
c. 46°; 134°
d. 46°; 113°

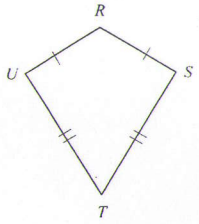
23. Find $m\angle 1$ and $m\angle 3$ in the kite. The diagram is not to scale.



a. 51, 51
b. 39, 39
c. 39, 51
d. 51, 39

24. $\angle J$ and $\angle M$ are base angles of isosceles trapezoid $JKLM$. If $m\angle J = 20x + 9$, and $m\angle M = 14x + 15$, find $m\angle K$.
a. 151
b. 1
c. 29
d. 75.5

25. $m\angle R = 130$ and $m\angle S = 80$. Find $m\angle T$. The diagram is not to scale.



a. 65
b. 70
c. 35
d. 80

KEY:
1. A
2. C
3. C
4. C
5. A
6. B
7. D
8. D
9. D
10. C
11. A
12. D
13. B
14. C
15. B
16. C
17. B
18. A
19. C
20. C
21. A
22. B
23. C
24. A
25. B