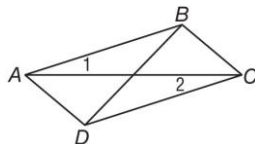


Chapter 6 Test, Form 2C

SCORE _____

- What is the sum of the interior angles of an octagonal box?
- A convex pentagon has interior angles with measures $(5x - 12)^\circ$, $(2x + 100)^\circ$, $(4x + 16)^\circ$, $(6x + 15)^\circ$, and $(3x + 41)^\circ$. Find the value of x .
- If the measure of each interior angle of a regular polygon is 171, find the number of sides in the polygon.

- In parallelogram $ABCD$, $m\angle 1 = x + 12$, and $m\angle 2 = 6x - 18$. Find $m\angle 1$.



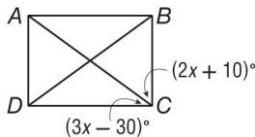
- Find the measure of each exterior angle of a regular 45-gon.
- In parallelogram $ABCD$, $m\angle A = 58$. Find $m\angle B$.
- Find the coordinates of the intersection of the diagonals of parallelogram $XYZW$ with vertices $X(2, 2)$, $Y(3, 6)$, $Z(10, 6)$, and $W(9, 2)$.

- Determine whether $ABCD$ is a parallelogram. Justify your answer.



- Determine whether the quadrilateral with vertices $A(5, 7)$, $B(1, -2)$, $C(-6, -3)$, and $D(2, 5)$ is a parallelogram. Use the slope formula.
- For quadrilateral $ABCD$, the slope of \overline{AB} is $\frac{1}{4}$, the slope of \overline{BC} is $-\frac{2}{3}$, and the slope of \overline{CD} is $\frac{1}{4}$. Find the slope of \overline{DA} so that $ABCD$ will be a parallelogram.

- Given rectangle $ABCD$, find the value of x .



- $ABCD$ is a parallelogram and $\overline{AC} \cong \overline{BD}$. Determine whether $ABCD$ is a rectangle. Justify your answer.
- $ABCD$ is a rhombus with diagonals intersecting at E . If $m\angle ABC$ is three times $m\angle BAD$, find $m\angle EBC$.

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

9. _____

10. _____

11. _____

12. _____

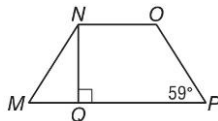
13. _____

Chapter 6 Test, Form 2C (continued)

14. $TUVW$ is a square with $U(10, 2)$, $V(8, 8)$, and $W(2, 6)$.
Find the coordinates of T .

14. _____

15. For isosceles trapezoid $MNOP$, find $m\angle MNQ$.



15. _____

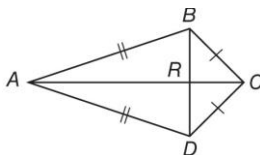
16. $ABCD$ is a quadrilateral with vertices $A(8, 3)$, $B(6, 7)$, $C(-1, 5)$, and $D(-6, -1)$. Determine whether $ABCD$ is a trapezoid. Justify your answer.

16. _____

17. The length of the median of trapezoid $EFGH$ is 13 feet. If the bases have lengths $2x + 4$ and $10x - 50$, find x .

17. _____

18. $ABCD$ is a kite. If $RC = 10$, and $BD = 48$, find CD .



18. _____

For Questions 19-25, write *true* or *false*.

19. A rectangle is always a parallelogram.

19. _____

20. The diagonals of a rhombus are always perpendicular.

20. _____

21. The diagonals of a square always bisect each other.

21. _____

22. A trapezoid always has two congruent sides.

22. _____

23. The median of a trapezoid is always parallel to the bases.

23. _____

24. A kite has exactly two congruent angles.

24. _____

25. If the diagonals of a parallelogram are perpendicular, then the parallelogram is a rectangle.

25. _____

- Bonus** In parallelogram $ABCD$, $AB = 2x - 7$, $BC = x + 3y$, $CD = x + y$, and $AD = 2x - y - 1$. Find the values of x and y .

B: _____