

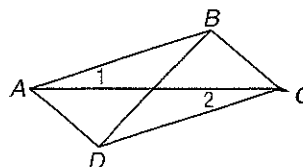
8 Chapter 8 Test, Form 2C

1. Find the sum of the measures of the interior angles of a convex 60-gon. 1. _____

2. 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 x . 2. _____

3. If the measure of each interior angle of a regular polygon is 171, find the number of sides of the polygon. 3. _____

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



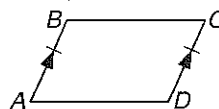
4. _____

5. Find the measure of each exterior angle of a regular 45-gon. 5. _____

6. In parallelogram $ABCD$, $m\angle A = 58$. Find $m\angle B$. 6. _____

7. Find the coordinates of the intersection of the diagonals of parallelogram $XYZW$ with vertices $X(2, 2)$, $Y(3, 6)$, $Z(10, 6)$, and $W(9, 2)$. 7. _____

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

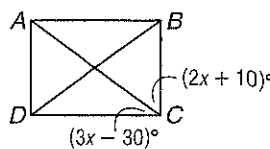


8. _____

9. Use the Slope Formula to determine whether $A(5, 7)$, $B(1, -2)$, $C(-6, -3)$, and $D(2, 5)$ are the coordinates of the vertices of parallelogram $ABCD$. 9. _____

10. If 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. 10. _____

11. Given rectangle $ABCD$, find x .



11. _____

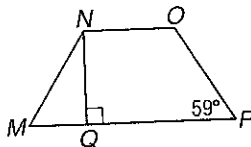
12. $ABCD$ is a parallelogram and $\overline{AC} \cong \overline{BD}$. Determine whether $ABCD$ is a rectangle. Justify your answer. 12. _____

13. $ABCD$ is a rhombus with diagonals intersecting at E . If $m\angle ABC = 3m\angle BAD$, find $m\angle EBC$. 13. _____

8 Chapter 8 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. Find $m\angle MNQ$ in isosceles trapezoid $MNOP$.



15. _____

16. $ABCD$ is a quadrilateral with $A(8, 3)$, $B(6, 7)$, $C(-1, 5)$, 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. _____

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. _____

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 x and y .

B: _____

Chapter 8 Assessment Answer Key

Form 2C

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1. 10,440

2. 19

3. 40

4. 18

5. 8

6. 122

7. (6, 4)

8. Yes; \overline{AB} and \overline{CD} are
 \parallel and \cong .

9. No; the slopes are
 $\frac{9}{4}$, $\frac{1}{7}$, 1, and $\frac{2}{3}$.
Thus, $ABCD$ does
not have \parallel sides.

10. $-\frac{2}{3}$

11. 22

Yes; if the diagonals
of a \square are \cong , then
12. the \square is a rectangle.

13. 67.5

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14. (4, 0)

15. 31

16. Yes; $ABCD$ has only
one pair of opposite
sides \parallel , \overline{BC} and \overline{AD} .

17. 6

18. $A(a, 0)$, $\overline{AC} \perp \overline{BD}$

19. true

20. true

21. true

22. false

23. true

24. true

25. false

B: $x = 9, y = 2$

