

Student Name: _____

Grade: _____

Date: _____

Subject: Mathematics

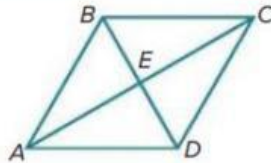
Subject Teacher: Abdulkader Amro

Assessment: M2L5 Rhombi and Squares

Part I — Rhombus Properties

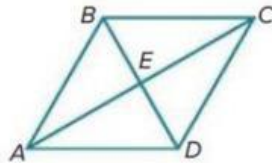
1. If $m\angle ABD = 60^\circ$, find $m\angle BDC$.

- A. 30°
- B. 60°
- C. 120°
- D. 90°



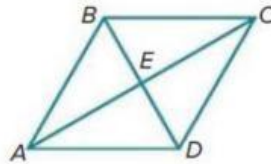
2. If $AE = 8$, find AC .

- A. 8
- B. 16
- C. 24
- D. 32



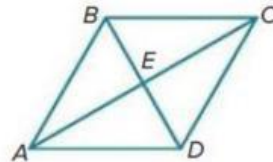
3. If $AB = 26$ and $BD = 20$, find AE .

- A. 10
- B. 20
- C. 24
- D. 26



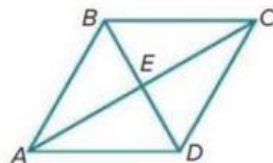
4. Find $m\angle CEB$.

- A. 45°
- B. 60°
- C. 120°
- D. 90°



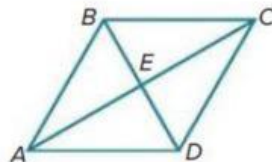
5. If $m\angle CBD = 58^\circ$, find $m\angle ACB$.

- A. 58°
- B. 29°
- C. 116°
- D. 32°



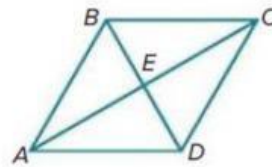
6. If $AE = 3x - 1$ and $AC = 16$, find x .

- A. 4
- B. 3
- C. 5
- D. 7



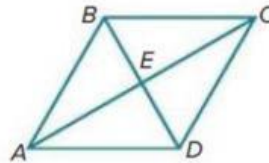
7. If $m\angle CDB = 6y^\circ$ and $m\angle ACB = (2y + 10)^\circ$, find y .

- A. 2.5
- B. 5
- C. 10
- D. 3



8. If $AD = 2x + 4$ and $CD = 4x - 4$, find x .

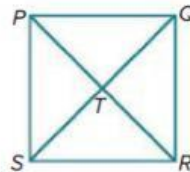
- A. 2
- B. 3
- C. 4
- D. 6



Part II — Square and Diagonal Properties

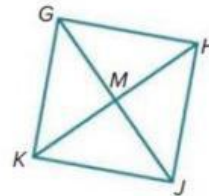
9. PQRS is a square. If $PR = 42$, find TR .

- A. 14
- B. 21
- C. 28
- D. 42



10. GHJK is a square. If $KM = 26.5$, find KH .

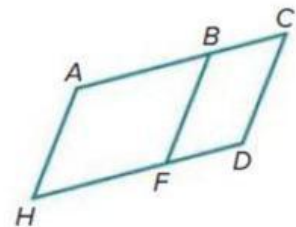
- A. 13.25
- B. 26.5
- C. 39.75
- D. 53



Part III — Proofs and Properties

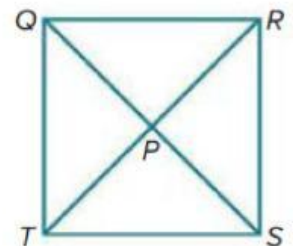
11. Given: $\overline{ACDH}$ and $\overline{BCDF}$ are parallelograms, and $\overline{BF} \cong \overline{AB}$. Prove: $\overline{ABFH}$ is a rhombus. Which statement correctly completes the argument?

- A. $\overline{ABFH}$ is a parallelogram, and one pair of consecutive sides is congruent; therefore it is a rhombus.
- B. $\overline{ABFH}$ is a rectangle because all four angles are right angles.
- C. $\overline{ABFH}$ is a square because its diagonals are perpendicular.
- D. $\overline{ABFH}$ is a trapezoid because one pair of sides is parallel.



12. Given: QRST is a parallelogram, $\overline{TR} \cong \overline{QS}$, and $m\angle QPR = 90^\circ$. Prove: QRST is a square. Which reasoning is correct?

- A. Congruent diagonals make the parallelogram a rhombus; perpendicular diagonals make it a rectangle; therefore it is a square.
- B. Congruent diagonals make the parallelogram a rectangle, and perpendicular diagonals make it a rhombus; having both properties makes it a square.
- C. Only the 90° angle is needed to prove that every parallelogram is a square.
- D. Congruent diagonals alone prove that every parallelogram is a square.



Part IV — Applications and Coordinate Classification

15. Jorge is using a 4 ft by 4 ft box garden. What does he need to know to ensure that the box garden is a square?

- A. Only that one side measures 4 ft.
- B. That the two adjacent side lengths are both 4 ft and the corners are right angles.
- C. That the diagonals have different lengths.
- D. That the perimeter is 8 ft.



17. $A(0, 2)$, $B(2, 4)$, $C(4, 2)$, $D(2, 0)$. Determine whether ABCD is a rhombus, rectangle, square, parallelogram, or none.

- A. Rhombus
- B. Rectangle
- C. Square
- D. None

18. $A(-2, -1)$, $B(0, 2)$, $C(2, -1)$, $D(0, -4)$. Determine the most specific classification.

- A. Parallelogram
- B. Rhombus
- C. Rectangle
- D. Square

19. $A(-6, -1)$, $B(4, -6)$, $C(2, 5)$, $D(-8, 10)$. Determine the most specific classification.

- A. Square
- B. Rectangle
- C. Rhombus
- D. None

20. $A(2, -4)$, $B(-6, -8)$, $C(-10, 2)$, $D(-2, 6)$. Determine the most specific classification.

- A. Parallelogram
- B. Rhombus
- C. Rectangle
- D. Square

21. $A(1, 3)$, $B(7, -3)$, $C(1, -9)$, $D(-5, -3)$. Determine the most specific classification.

- A. Rectangle
- B. Parallelogram
- C. Rhombus
- D. Square

22. $A(-9, 1)$, $B(2, 3)$, $C(12, -2)$, $D(1, -4)$. Determine the most specific classification.

- A. Rhombus
- B. Square
- C. Rectangle
- D. Parallelogram