Write the letter for the correct answer in the blank at the right of each question.

1. Find the sum of the measures of the interior angles of a convex 50-gon.
   - A 9000
   - B 8640
   - C 360
   - D 172.8

1. __________

2. Find the value of \( x \).
   - A \( \frac{16}{50} \)
   - B \( \frac{34}{70} \)
   - C 50
   - D 70

2. __________

3. Find the sum of the measures of the exterior angles of a convex 65-gon.
   - A 5.54
   - B 90
   - C 180
   - D 360

3. __________

4. Which of the following is a property of all parallelograms?
   - A Each pair of opposite angles is congruent.
   - B Only one pair of opposite sides is congruent.
   - C Each pair of opposite angles is supplementary.
   - D There are four right angles.

4. __________

5. For parallelogram \( \text{ABCD} \), find \( m \angle 1 \).
   - A 19
   - B 38
   - C 52
   - D 56

5. __________

6. \( \text{ABCD} \) is a parallelogram with diagonals intersecting at \( E \). If \( \text{AB} = 4x - 8 \) and \( \text{EC} = 36 \), find the value of \( x \).
   - A \( \frac{7}{11} \)
   - B 15.5
   - C \( \frac{16}{38} \)

6. __________

7. Find the values of the values of \( x \) and \( y \) so that the quadrilateral is a parallelogram.
   - A \( x = 27, y = 90 \)
   - B \( x = 27, y = 40 \)
   - C \( x = 13, y = 90 \)
   - D \( x = 13, y = 40 \)

7. __________

8. Find the value of \( x \) so that the quadrilateral is a parallelogram.
   - A \( \frac{7}{3} \)
   - B \( 8 \)
   - C \( 12 \)
   - D 66

8. __________

9. \( \text{ABCD} \) is a parallelogram with \( A(5, 4), B(-1, -2) \), and \( C(8, -2) \). Find the coordinates of \( D \).

9. __________

10. \( \text{ABCD} \) is a rectangle. If \( \text{AB} = 7x - 6 \) and \( \text{CD} = 5x + 30 \), find the value of \( x \).
    - A \( \frac{5}{3} \)
    - B \( 12 \)
    - C \( 13 \)
    - D 18

10. __________

11. Which of the following is true for all rectangles?
    - A The diagonals are perpendicular.
    - B The consecutive angles are supplementary.
    - C The opposite sides are supplementary.
    - D The opposite angles are complementary.

11. __________
12. $ABCD$ is a rectangle with $B(-7, 3), C(5, 3),$ and $D(5, -8)$. Find the coordinates of $A$.

13. For rhombus $GHJK$, find $m\angle 1$.

14. The diagonals of square $ABCD$ intersect at $E$. If $AE = 3x - 4$ and $BD = 10x - 48$, find $AC$.

15. $ABCD$ is an isosceles trapezoid with $A(0, -1), B(-2, 3),$ and $D(6, -1)$. Find the coordinates of $C$.

16. For isosceles trapezoid $MNOP$, find $m\angle MNP$.

17. The length of one base of a trapezoid is 19 meters and the length of the median is 23 meters. Find the length of the other base.

18. On a coordinate plane, the four corners of Ronald’s garden are located at $(0, 2), (4, 6), (8, 2),$ and $(4, -2)$. Which of the following most accurately describes the shape of Ronald’s garden?

19. For kite $WXYZ$, find $m\angle W$.

20. $ABCD$ is a parallelogram with coordinates $A(4, 2), B(3, -1), C(-1, -1),$ and $D(-1, 2)$. To prove that $ABCD$ is a rhombus, you would plot the parallelogram on a coordinate plane and then find which of the following?

Bonus The sum of the measures of the interior angles of a convex polygon is ten times the sum of the measures of its exterior angles. Find the number of sides of the polygon.
Chapter 6 Test, Form 2B

Write the letter for the correct answer in the blank at the right of each question.

1. Find the sum of the measures of the interior angles of a convex 50-gon.
   A 9000   B 8640   C 360   D 172.8
   1. B

2. Find the value of x.
   \[ (x + 70)° - x° + (2x - 10)° = (2x)° \]
   A 16   B 34   C 50   D 70
   2. D

3. Find the sum of the measures of the exterior angles of a convex 65-gon.
   A 5.54   B 90   C 180   D 360
   3. D

4. Which of the following is a property of all parallelograms?
   A Each pair of opposite angles is congruent.
   B Each pair of opposite sides is congruent.
   C Each pair of opposite angles is supplementary.
   D There are four right angles.
   4. A

5. For parallelogram \(ABCD\), find \(m \angle 1\).
   A 19   B 38   C 52   D 56
   5. B

6. \(ABCD\) is a parallelogram with diagonals intersecting at \(E\). If \(AE = 4x - 8\) and \(EC = 36\), find the value of \(x\).
   A 7   B 11   C 15.5   D 38
   6. B

7. Find the values of the values of \(x\) and \(y\) so that the quadrilateral is a parallelogram.
   \(x = 27, y = 90\)   \(x = 13, y = 90\)
   7. A

8. Find the value of \(x\) so that the quadrilateral is a parallelogram.
   A 7
   C 12
   B 8
   8. C

9. \(ABCD\) is a parallelogram with \(A(5, 4), B(-1, -2),\) and \(C(8, -2)\). Find the coordinates of \(D\).
   A 11
   B 13
   C 8
   D 6
   9. C

10. \(ABCD\) is a rectangle. If \(AB = 7x - 6\) and \(CD = 5x + 30\), find the value of \(x\).
    A 5 1/3
    B 12
    C 13
    D 18
    10. D

11. Which of the following is true for all rectangles?
   A The diagonals are perpendicular.
   B The consecutive angles are supplementary.
   C The opposite sides are supplementary.
   D The opposite angles are complementary.
   11. B
12. \(ABCD\) is a rectangle with \(B(-7, 3), C(5, 3),\) and \(D(5, -8)\). Find the coordinates of \(A\).

\[
\begin{align*}
A & \quad (-8, -7) & A & \quad (-7, -8) & A & \quad (-5, -3) & A & \quad (-8, -5) \\
\end{align*}
\]

13. For rhombus \(GHJK\), find \(m\angle G\).

\[
\begin{array}{ll}
A & 90 \\
B & 64 \\
C & 52 \\
D & 38 \\
\end{array}
\]

14. The diagonals of square \(ABCD\) intersect at \(E\). If \(AE = 3x - 4\) and \(BD = 10x - 48\), find \(AC\).

\[
\begin{array}{ll}
A & 90 \\
B & 26 \\
D & 10 \\
\end{array}
\]

15. \(ABCD\) is an isosceles trapezoid with \(A(0, -1), B(-2, 3),\) and \(D(6, -1)\). Find the coordinates of \(C\).

\[
\begin{array}{ll}
A & C(6, 1) \\
B & C(9, 4) \\
C & C(2, 3) \\
D & C(8, 3) \\
\end{array}
\]

16. For isosceles trapezoid \(MNOP\), find \(m\angle MNP\).

\[
\begin{array}{ll}
A & 42 \\
B & 70 \\
C & 82 \\
D & 98 \\
\end{array}
\]

17. The length of one base of a trapezoid is 19 meters and the length of the median is 23 meters. Find the length of the other base.

\[
\begin{array}{ll}
A & 15 m \\
B & 21 m \\
C & 27 m \\
D & 42 m \\
\end{array}
\]

18. On a coordinate plane, the four corners of Ronald's garden are located at \((0, 2), (4, 6), (8, 2),\) and \((4, -2)\). Which of the following most accurately describes the shape of Ronald's garden?

\[
\begin{array}{ll}
A & \text{square} \\
B & \text{rectangle} \\
C & \text{rhombus} \\
D & \text{trapezoid} \\
\end{array}
\]

19. For kite \(WXYZ\), find \(m\angle W\).

\[
\begin{array}{ll}
A & 106 \\
B & 148 \\
C & 212 \\
D & 360 \\
\end{array}
\]

20. \(ABCD\) is a parallelogram with coordinates \(A(4, 2), B(3, -1), C(-1, -1),\) and \(D(-1, 2)\). To prove that \(ABCD\) is a rhombus, you would plot the parallelogram on a coordinate plane and then find which of the following?

\[
\begin{array}{ll}
A & \text{measures of the angles} \\
B & \text{slopes of the diagonals} \\
C & \text{lengths of the diagonals} \\
D & \text{midpoints of the diagonals} \\
\end{array}
\]

\[
\text{Bonus} \quad \text{The sum of the measures of the interior angles of a convex polygon is ten times the sum of the measures of its exterior angles. Find the number of sides of the polygon.}
\]

\[
\text{B: 22}
\]