

Name

Key

Date

Period

Chapter 6 PRE TEST

1. C

Find the sum of the measures of the interior angles of a convex 48-gon.

- A) 172.5
- B) 360
- C) 8280
- D) 8640

$$(48-2)180$$

$$46 \times 180$$

2. C

Find the sum of the measures of the exterior angles of a convex 21-gon.

- A) 21
- B) 180
- C) 360
- D) 3420

3. D

Which of the following is a property of a parallelogram?

- A) The diagonals are congruent.
- B) The diagonals bisect the angles.
- C) The diagonals are perpendicular.
- D) The diagonals bisect each other.

4. D

Which of the following is a property of all rectangles?

- A) four congruent sides
- B) diagonals bisect the angles
- C) diagonals are perpendicular
- D) four right angles

5. B

For parallelogram ABCD, find $m\angle 1$.

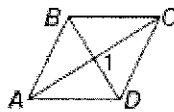
- A) 19
- B) 38
- C) 52
- D) 56



6. C

For rhombus ABCD, find $m\angle 1$.

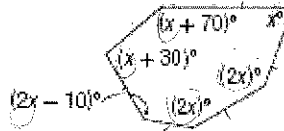
- A) 45
- B) 60
- C) 90
- D) 120



7. D

Find the value of x.

- A) 16
- B) 34
- C) 50
- D) 70



$$(6-2)180$$

$$4(180) = 720$$

$$9x + 90 = 720$$

$$9x = 630$$

8. B

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

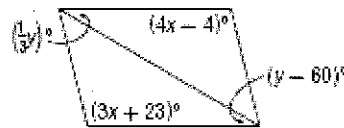


$$4x - 8 = 36$$

9. A

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) $x = 13, y = 40$



$$2(\frac{1}{2}x) = y - 60$$

$$x = y - 60$$

$$y = 3y - 180$$

$$-2y = -180$$

$$y = 90$$

$$4x - 4 = 3x + 23$$

$$-3x$$

$$x = 27$$

10. C

Find the value of x so that the quadrilateral is a parallelogram.

- A) $7\frac{1}{3}$
- B) 8
- C) 12
- D) 66



$$6x - 6 = 3x + 30$$

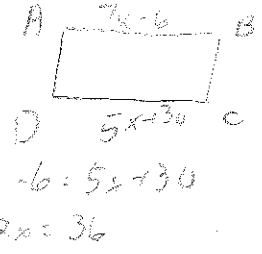
$$3x = 36$$

$$x = 12$$

11. D

$ABCD$ is a rectangle. If $AB = 7x - 6$ and $CD = 5x + 30$, find the value of x .

- A) $5\frac{1}{3}$
- B) 12
- C) 13
- D) 18



12. B

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

- A) 90
- B) 52
- C) 26
- D) 10

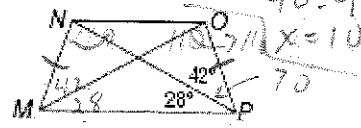
$(3x - 4) + (3x - 4) = 10x - 48$
 $6x - 8 = 10x - 48$
 $40 = 4x$
 $x = 10$



13. C

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

- A) 42
- B) 70
- C) 82
- D) 98



14. ~~_____~~

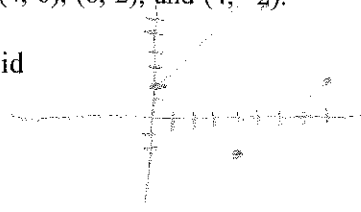
The length of one base of a trapezoid is 19 meters and the length of the median is 23 meters. Find the length of the other base.

- A) 15 m
- B) 21 m
- C) 27 m
- D) 42 m

15. B

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?

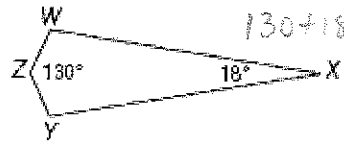
- A) square
- B) rectangle
- C) rhombus
- D) trapezoid



16. A

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

- A) 106
- B) 148
- C) 212
- D) 360

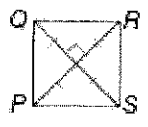


$130 + 18 = 148$
 360
 148
 $\hline 212$

17. B

Find $m\angle PRS$ in square $PQRS$.

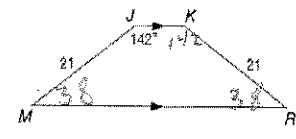
- A) 30
- B) 45
- C) 60
- D) 90



18. B

In trapezoid $JKMR$, find $m\angle R$.

- A) 142
- B) 38
- C) 21
- D) 71



$180 - 142 = 38$

19. 8°

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

$\frac{360}{45} = 8$

20. 45

The measure of each interior angle of a regular polygon is 172. Find the number of sides in the polygon.

$172n = (n - 2)180$
 $172n = 180n - 360$
 $n = 45$

21. _____

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.

$10 \times 360 = 36,000$
 $36,000 = (n - 2)180$
 $200 = n - 2$
 $202 = n$