Name: _____
ACP Geometry Unit 5 Review

_____**1.** Find the sum of the measures of the interior angles of a convex 30-gon.

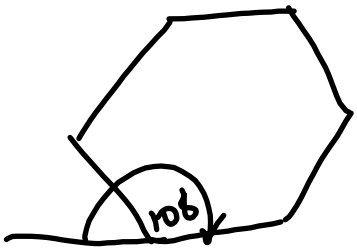
A 5400 **B** 5040 **C** 360 **D** 168

_____**2.** Find the sum of the measures of the exterior angles of a convex 21-gon.

F 21 **G** 180 **H** 360 **J** 3420

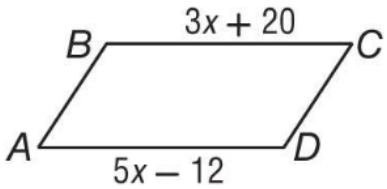
B
_____**3.** If the measure of each interior angle of a regular polygon is 108, find the measure of each exterior angle.

A 18 **B** 72 **C** 90 **D** 108



_____**4.** For parallelogram *ABCD*, find the value of *x*.

F 4 **H** 16
G 10.25 **J** 21.5

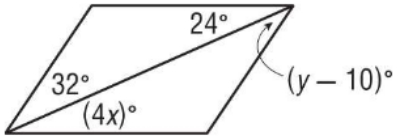


_____**5.** Which of the following is a property of a parallelogram?

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

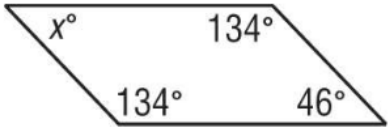
_____ **6.** Find the values of x and y so that $ABCD$ will be a parallelogram.

F $x = 6, y = 42$
G $x = 6, y = 22$
H $x = 20, y = 42$
J $x = 20, y = 22$



_____ **7.** Find the value of x so that this quadrilateral is a parallelogram.

A 44 **C** 90
B 46 **D** 134



_____ **8.** Which of the following is a property of all rectangles?

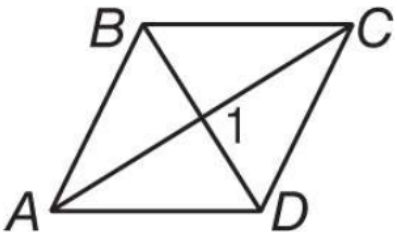
A four congruent sides **C** diagonals are perpendicular
B diagonals bisect the angles **D** four right angles.

_____ **9.** $ABCD$ is a rectangle with diagonals $\overline{AC}$ and $\overline{BD}$. If $AC = 2x + 10$ and $BD = 56$, find the value of x.

F 23 **G** 33 **H** 78 **J** 122

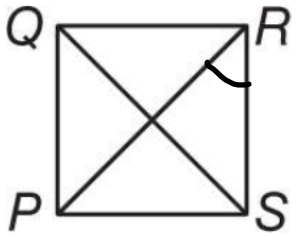
_____ **10.** For rhombus $ABCD$, find $m\square 1$.

F 45 **H** 90
G 60 **J** 120



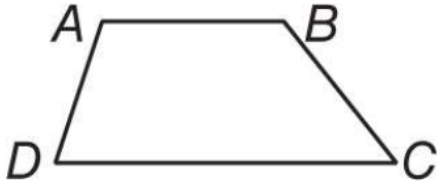
B **11.** Find $m\angle PRS$ in square $PQRS$.

A 30 **C** 60
B 45 **D** 90



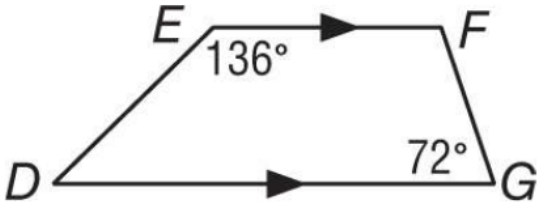
J **12.** Choose a pair of base angles of trapezoid $ABCD$.

F $\angle A, \angle C$ **H** $\angle A, \angle D$
G $\angle B, \angle D$ **J** $\angle D, \angle C$



A **13.** In trapezoid $DEFG$, find $m\angle D$.

A 44 **C** 108
B 72 **D** 136



G **14.** The hood of Olivia's car is the shape of a trapezoid. The base bordering the windshield measures 30 inches and the base at the front of the car measures 24 inches. What is the width of the median of the hood?

F 25 in. **G** 27 in. **H** 28 in. **J** 29 in.

A **15.** The length of one base of a trapezoid is 44, the median is 36, and the other base is $2x + 10$. Find the value of x.

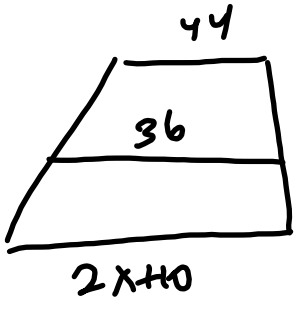
A 9 **B** 17 **C** 21 **D** 40

$2 \cdot 36 = \frac{1}{2}(44 + 2x + 10)$

$72 = 54 + 2x$

$-54 \quad -54$

$18 = 2x \quad x = 9$

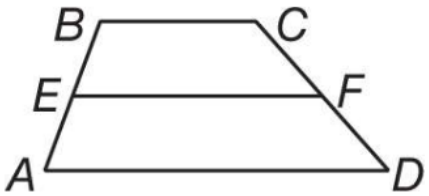


J

_____**16.** Given trapezoid $ABCD$ with median $\overline{EF}$, which of the following is true?

F $EF = \frac{1}{2}AD$ **H** $AB = EF$

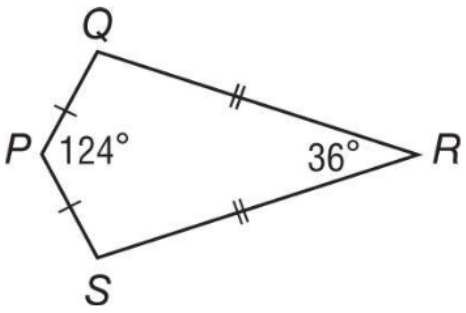
G $AE = FD$ **J** $EF = \frac{BC + AD}{2}$



_____**17.** $PQRS$ is a kite. Find $m\angle S$.

A 100 **C** 200

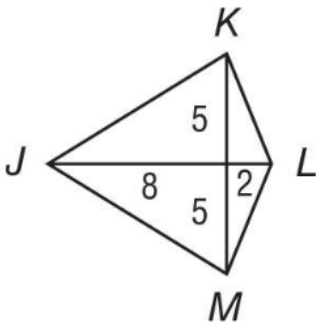
B 160 **D** 360



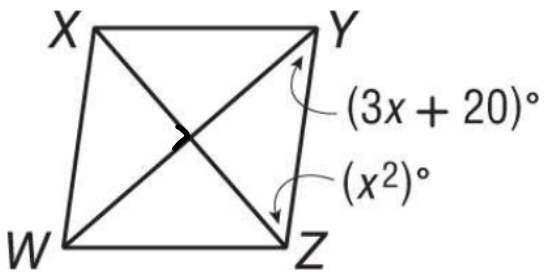
_____**18.** $JKLM$ is a kite, find JM.

F $\sqrt{29}$ **H** $\sqrt{13}$

G $\sqrt{89}$ **J** 11



19. Find x and $m\angle WYZ$ in rhombus $XYZW$.



$x^2 + 3x + 20 = 90$

$x^2 + 3x - 70 = 0$

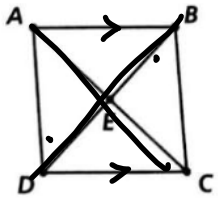
$(x + 10)(x - 7) = 0$

$x + 10 = 0$ $x - 7 = 0$

$x = 7$

-70 $10 + -7 = 3$

Determine the most precise name of quadrilateral *ABCD* from the information given.



$\overline{AE} \cong \overline{CE}, \overline{BE} \cong \overline{DE}$ Parallelogram

$\triangle ABC \cong \triangle ADC, \overline{AB} \neq \overline{BC}$ Parallelogram.

parallelogram $ABCD$ with $\overline{AC} \cong \overline{BD}$ and $\overline{AD} \perp \overline{DC}$ Rectangle

$\overline{AB} \parallel \overline{DC}, \angle CAD \cong \angle BCA$ Parallelogram.

$\angle ABC \cong \angle BCD \cong \angle CDA \cong \angle DAB, \overline{AC} \perp \overline{BD}$ Rectangle

$\overline{AB} \cong \overline{BC} \cong \overline{CD} \cong \overline{DA}$ Rhombus

$\overline{AB} \parallel \overline{DC}, m\angle CBD \neq m\angle ADB, \overline{AC} \cong \overline{BD}$ Iso Trapezoid

Relationships Among Quadrilaterals

Answer the following exercises *All, Some,* or *No.*

1. ___?___ rectangles are squares. Some
2. ___?___ isosceles trapezoids are parallelograms. No
3. ___?___ trapezoids are isosceles trapezoids. Some
4. ___?___ rhombuses are quadrilaterals. All
5. ___?___ kites are parallelograms. No
6. ___?___ rhombuses are squares. Some
7. ___?___ squares are triangles. No
8. ___?___ rectangles are regular quadrilaterals. No
9. ___?___ squares are quadrilaterals, rectangles, rhombuses, and parallelograms. All

10. _?_ quadrilaterals have four congruent angles. Some
11. _?_ rectangles are rhombuses. NO
12. _?_ trapezoids are parallelograms. NO
13. _?_ trapezoids have both pairs of opposite sides parallel. NO
14. _?_ trapezoids have a pair of congruent sides. Some
15. _?_ kites have two pairs of congruent sides. All
16. _?_ squares are regular quadrilaterals. All
17. _?_ kites have congruent diagonals. No
18. _?_ trapezoids have four congruent sides. NO
19. _?_ parallelograms have four congruent angles. Some
20. _?_ isosceles trapezoids have one pair of opposite congruent sides. All

Directions: Check off the properties that are **always** true for the following shapes

Description	Parallelogram	Rectangle	Rhombus	Square
Opposite sides are parallel	X	X	X	X
Opposite sides are congruent	X	X	X	X
Opposite angles are congruent	X	X	X	X
Consecutive angles are supplementary	X	X	X	X
Diagonals bisect each other	X	X	X	X
All angles are 90 degrees		X		X
Diagonals are congruent		X		X
All sides are congruent			X	X
Diagonals are angle bisectors			X	X
Diagonals are perpendicular			X	X