**Answer each question about the given polygon**

1. Find the sum of the measures of the interior angles of a convex 50-gon

2. Find the sum of the measures of the interior angles of a convex hexagon

3. Find the sum of the measures of the interior angles of a convex 30-gon

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

5. Find the sum of the measures of the exterior angles of a convex nonagon

6. If the measure of each interior angle of a regular polygon is 108, find the measure of each exterior angle

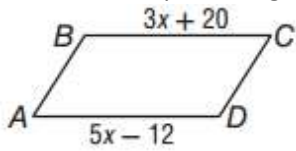**List the properties of each quadrilateral**

7. Parallelogram

8. Rectangle

9. Rhombus

10. Square

11. Kite

12. Trapezoid
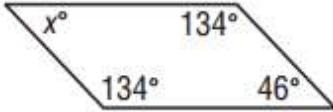
13. Isosceles Trapezoid

**Find the value of x**

14.



15.
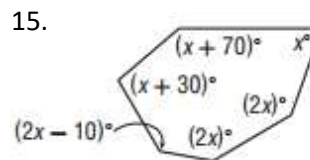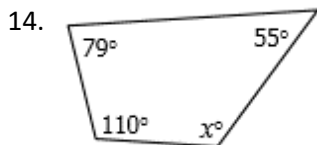
**Find the value of x**

16. ABCD is a parallelogram

B — $3x + 20$ — C
A — $5x - 12$ — D

17. ABCD is a parallelogram with diagonals intersecting at E. If AE = 4x- 8 and EC = 36, find the value of x.

18. This quadrilateral is a parallelogram

$x°$   134°
134°   46°

19. STRQ is a rectangle with diagonals SR and TQ. If SR = 2x + 10 and TQ = 56, find the value of x.

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

21.
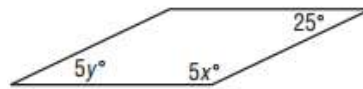$(11x - 5)°$
67°   $(4x + 29)°$
$(9x - 15)°$   61°
$(6x + 13)°$
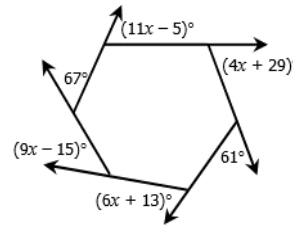
**Find the value of the variables so that the quadrilaterals are parallelograms**

22.
$6x - 6$   $3x + 30$

23.
25°
$5y°$   $5x°$

24.
$(x + y)°$
$2x°$
30°
24°

25.
$(2x + 30)°$
$(\frac{1}{2}y)°$
$(y - 12)°$
$(5x - 9)°$
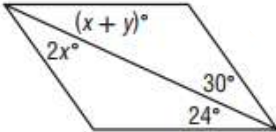
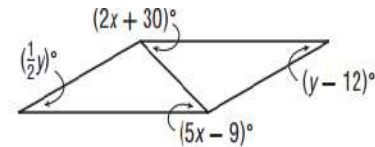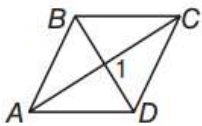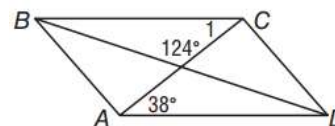**Find the requested segment or angle.**

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

B — C
1
A — D

27. For parallelogram ABCD finr $m\angle 1$

B — 1 — C
124°
38°
A — D

28. For rhombus GHJK , if $m\angle DML = 82$, find $m\angle DKM$

D — K
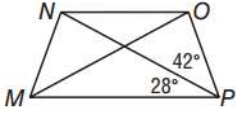A
M — L
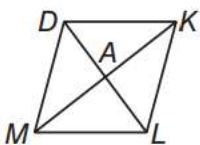
29. For rhombus GHJK, find $m\angle 1$

H — J
1
G   128° K
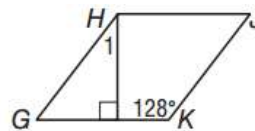
**Find the requested segment or angle**

30. Quadrilateral HIJK is a square with diagonals that intersect at L. Find the m∠HIJ and m∠JKI.
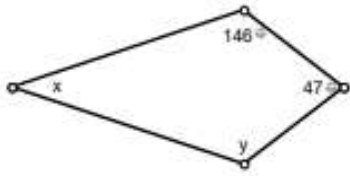
31. The diagonals of square VWXY intersect at Z. If VZ = 3x - 4 and WY = 10x - 48, find VX.

32. For isosceles trapezoid MNOP, find  m∠MNP.



33. 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.

34. The figure below is a Kite. Find x and y.



35. Find x and y



36. Given B(1, 3), E(7, -3), F(1, -9), G(-5, -3), determine whether parallelogram BEFG is a rhombus, a rectangle or square. Choose the most specific term. Justify your answer.