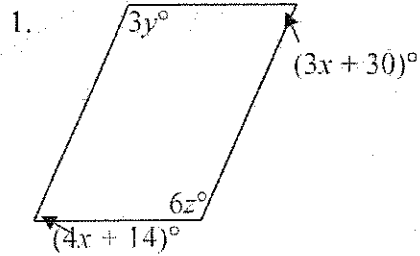


Find the value of each variable in the given parallelogram.

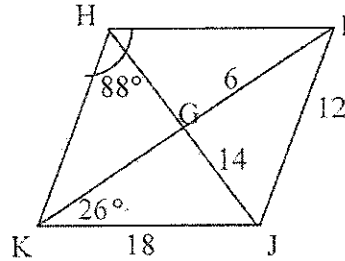


$x =$  \_\_\_\_\_

$y =$  \_\_\_\_\_

$z =$  \_\_\_\_\_

Find each measure in the parallelogram HJKI.



2.  $HI =$  \_\_\_\_\_

3.  $HJ =$  \_\_\_\_\_

4.  $KG =$  \_\_\_\_\_

5.  $m\angle HKJ =$  \_\_\_\_\_

6.  $m\angle KIH =$  \_\_\_\_\_

7.  $m\angle JIH =$  \_\_\_\_\_

8.  $m\angle KJI =$  \_\_\_\_\_

9.  $m\angle JIK =$  \_\_\_\_\_

$ABCD$  is a rectangle with  $BC = 63$  and  $AB = 84$ . Find each measure.

10.  $m\angle BCD =$  \_\_\_\_\_

11.  $m\angle CED =$  \_\_\_\_\_

12.  $m\angle CAD =$  \_\_\_\_\_

13.  $m\angle AED =$  \_\_\_\_\_

14.  $m\angle 1 =$  \_\_\_\_\_

15.  $m\angle 2 =$  \_\_\_\_\_

16.  $m\angle 3 =$  \_\_\_\_\_

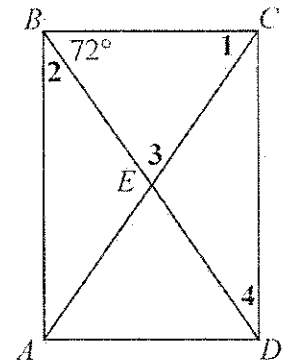
17.  $m\angle 4 =$  \_\_\_\_\_

18.  $AD =$  \_\_\_\_\_

19.  $AC =$  \_\_\_\_\_

20.  $BE =$  \_\_\_\_\_

21.  $DB =$  \_\_\_\_\_



$NOPQ$  is a rhombus. Given  $ON = 110$  and  $OQ = 176$ . Find each measure.

22.  $m\angle OPN =$  \_\_\_\_\_

23.  $m\angle NOQ =$  \_\_\_\_\_

24.  $m\angle NQP =$  \_\_\_\_\_

25.  $m\angle OPQ =$  \_\_\_\_\_

26.  $m\angle 1 =$  \_\_\_\_\_

27.  $m\angle 2 =$  \_\_\_\_\_

28.  $m\angle 3 =$  \_\_\_\_\_

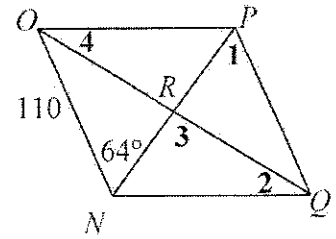
29.  $m\angle 4 =$  \_\_\_\_\_

30.  $OP =$  \_\_\_\_\_

31.  $OR =$  \_\_\_\_\_

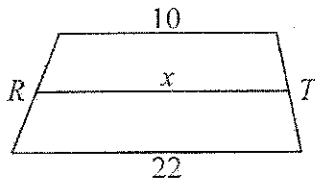
32.  $NP =$  \_\_\_\_\_

33.  $NR =$  \_\_\_\_\_

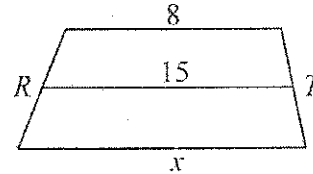


The midsegment of the trapezoid is  $\overline{RT}$ . Set up an equation and solve for  $x$ .

34.



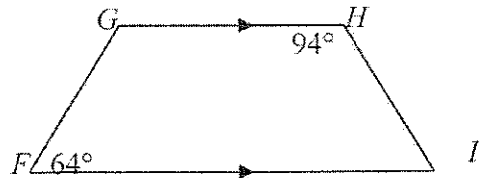
35.



Find each measure of  $FGHI$ .

36.  $m\angle G =$  \_\_\_\_\_

37.  $m\angle I =$  \_\_\_\_\_

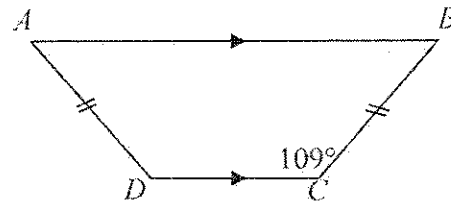


Find the missing angle measure of  $ABCD$ .

38.  $m\angle A =$  \_\_\_\_\_

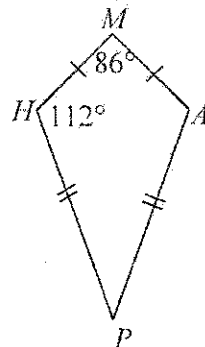
39.  $m\angle B =$  \_\_\_\_\_

40.  $m\angle D =$  \_\_\_\_\_

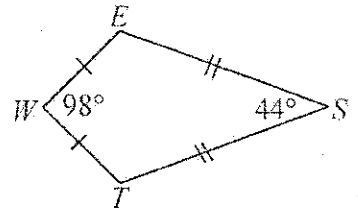


Find the measure of the missing angles.

41.  $m\angle A =$  \_\_\_\_\_



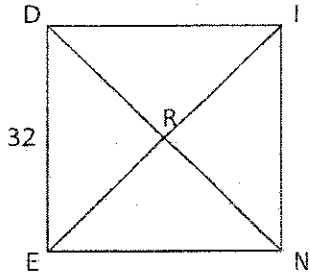
42.  $m\angle E =$  \_\_\_\_\_



43.  $m\angle P =$  \_\_\_\_\_

44.  $m\angle T =$  \_\_\_\_\_

45. Given WILS is a square. Find the indicated measures.



$m\angle DEN =$  \_\_\_\_\_

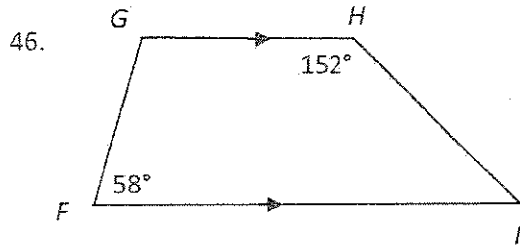
$m\angle IRN =$  \_\_\_\_\_

$m\angle DRI =$  \_\_\_\_\_

$m\angle NDE =$  \_\_\_\_\_

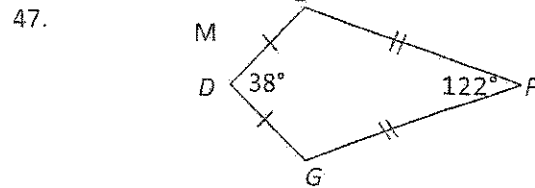
$EN =$  \_\_\_\_\_

Find each missing angle measure.



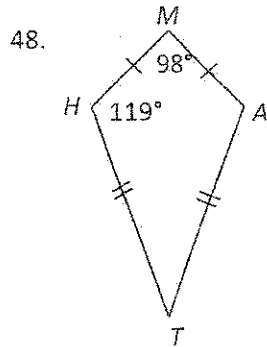
$m\angle G =$  \_\_\_\_\_

$m\angle I =$  \_\_\_\_\_



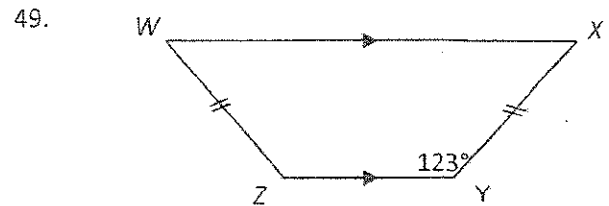
$m\angle E =$  \_\_\_\_\_

$m\angle G =$  \_\_\_\_\_



$m\angle A =$  \_\_\_\_\_

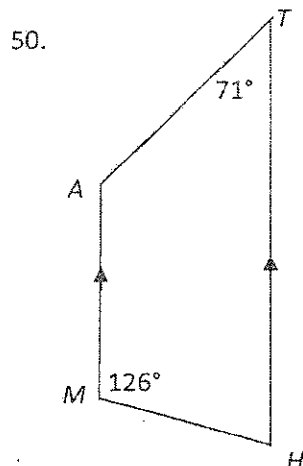
$m\angle T =$  \_\_\_\_\_



$m\angle W =$  \_\_\_\_\_

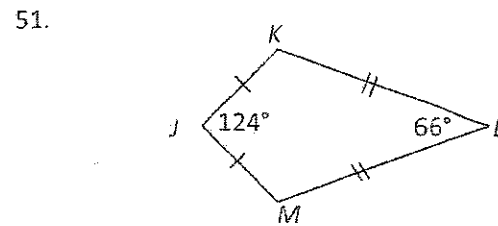
$m\angle X =$  \_\_\_\_\_

$m\angle Z =$  \_\_\_\_\_



$m\angle A =$  \_\_\_\_\_

$m\angle H =$  \_\_\_\_\_



$m\angle K =$  \_\_\_\_\_

$m\angle M =$  \_\_\_\_\_

Find the sum of the measures of the interior angles of the convex polygon

1) 10-gon

2) 12-gon

3) 15-gon

4) 18-gon

5) 20-gon

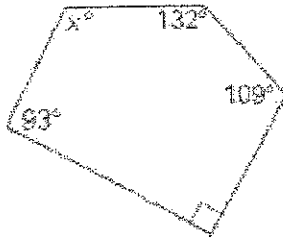
6) 30-gon

7) 40-gon

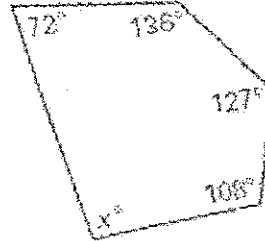
8) 100-gon

Find the value of  $x$

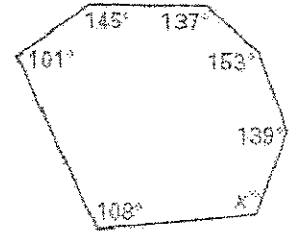
9)



10)



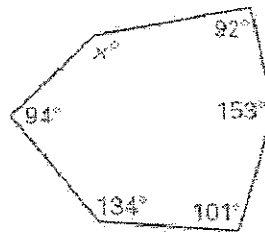
11)



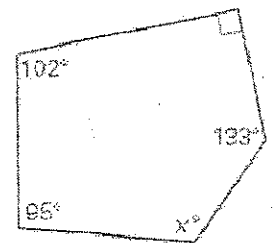
12)



13)



14)



- 15) A convex quadrilateral has interior angles that measure  $80^\circ$ ,  $110^\circ$ , and  $80^\circ$ . What is the measure of the fourth interior angle?
- 16) A convex pentagon has interior angles that measure  $60^\circ$ ,  $80^\circ$ ,  $120^\circ$ , and  $140^\circ$ . What is the measure of the fifth interior angle?

Find the sum of the exterior angles of the following

17. dodecagon

18. Decagon

19. Heptagon

You are given the measure of one exterior angle of a regular convex polygon. Find the value of  $n$  ( $n$  is the number of sides).

20.  $20^\circ$

21.  $12^\circ$

22.  $30^\circ$

You are given the measure of each interior angle of a regular convex polygon. Find the value of  $n$  ( $n$  is the number of sides).

23.  $144^\circ$

24.  $120^\circ$

25.  $140^\circ$

26.  $108^\circ$

27.  $156^\circ$

Find the measure of one interior and one exterior angle of a regular convex polygon

22. hexagon

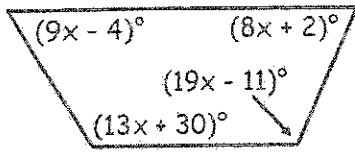
23. nonagon

24. quadrilateral

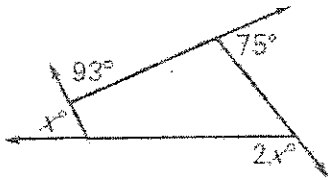
25. octagon

Find the value of x.

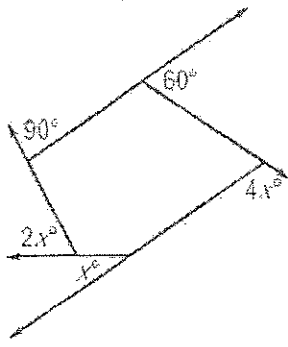
26.



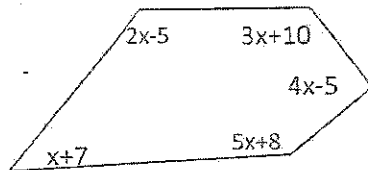
27.



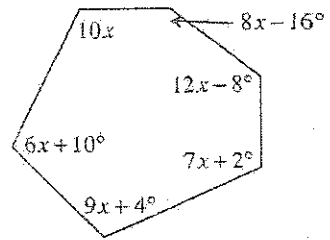
28.



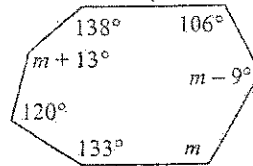
29.



31.



32.



30. The exterior angles of a heptagon are  $73^\circ$ ,  $103^\circ$ ,  $47^\circ$ ,  $14^\circ$ ,  $23^\circ$ ,  $52^\circ$  and  $x$ . Find  $x$ .