6.1
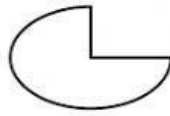
Tell whether each figure is a polygon. If it is a polygon, name it by the number of sides.
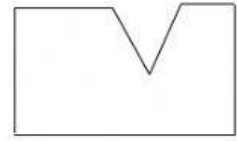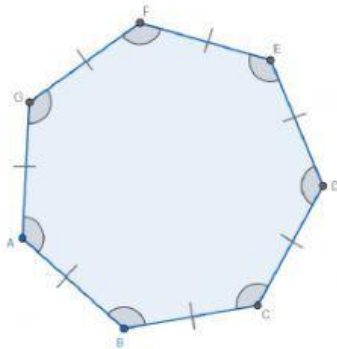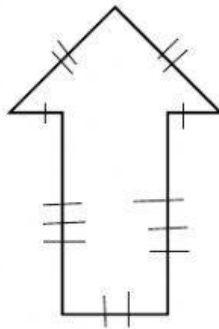
1.

2.

3.

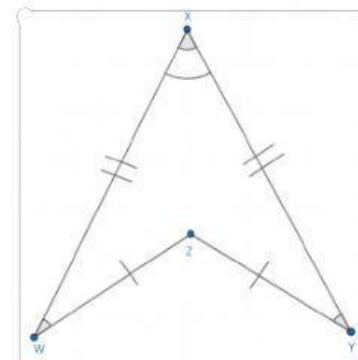Tell whether each polygon is regular or irregular. Then tell whether it is concave or convex.

4.

5.

6.

Find the sum of the interior angle measures of each convex polygon.

7. Hexagon

8. Octagon

9. Decagon

Find the measure of each interior angle of each regular polygon. Round to the nearest tenth if necessary.
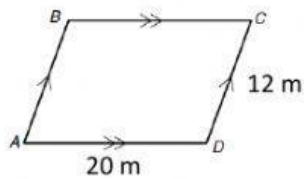
10. Pentagon

11. 14-gon

12. Nonagon

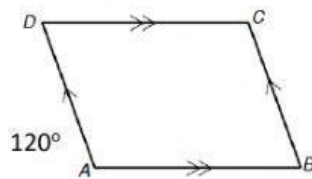Find the measure of each exterior angle of each regular polygon.

13. Hexagon

14. Pentagon

6.2

Find each measure.

1.   AB   2.   m∠D
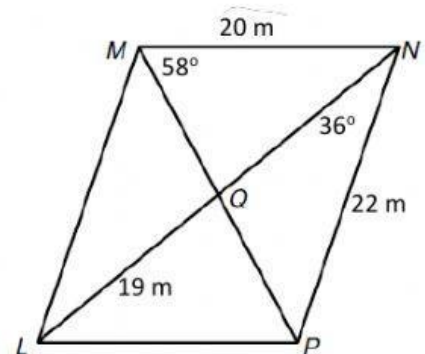

12 m

20 m

120°

Find each measure in parallelogram LMNP

3.   ML   4.   LP

5.   m∠LPM   6.   LN
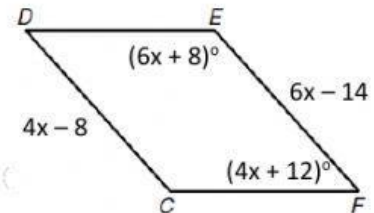
7.   m∠MLN   8.   QN

20 m

58°

36°

22 m

19 m

CDEF is a parallelogram. Find each measure.

9.   CD   10. EF

11. m∠F   12. m∠E

(6x + 8)°

6x − 14

4x − 8

(4x + 12)°
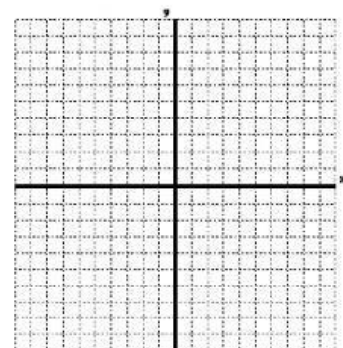
The coordinates of three vertices of a parallelogram are given. Find the coordinates of the fourth vertex.

13. Parallelogram ABCD with A(−4, 6), B(1, 8), C(1, 5)

14. Parallelogram KLMN with K(−4, 3), L(3, 2), M(5, −1)
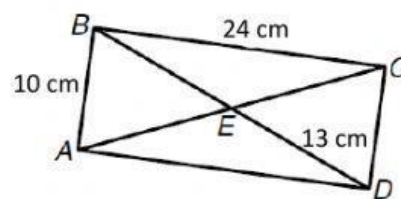
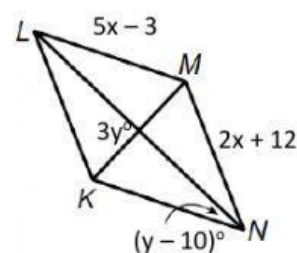ABCD is a rectangle. Find each length.

1. AC

2. CD

3. BD

4. AE

KLMN is a rhombus. Find each measure.

5. KL

6. m∠MNK

The vertices of square ABCD are A(4, 0), B(1, 5), C(6, 8), and D(9, 3). Show that each of the following is true.

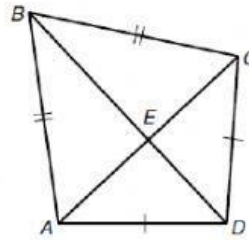7. The diagonals are perpendicular bisectors of each other.

8. The diagonals are congruent.

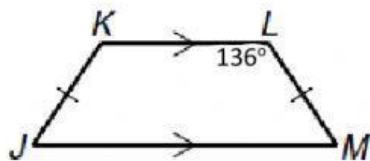In kite ABCD, m∠BCD = 105°, and m∠ADE = 50°. Find each measure.

1. m∠DAE

2. m∠BCE
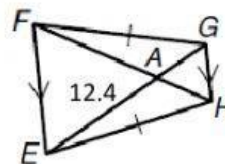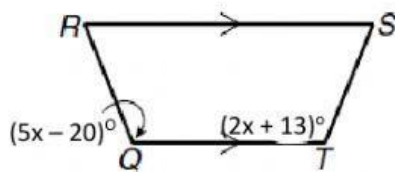
3. m∠ABC

4. Find m∠J in trapezoid JKLM
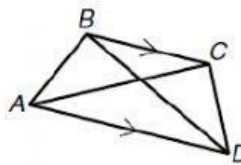

5. In trapezoid EFGH, FH = 18. Find AG.

Find each value so that the trapezoid is isosceles.
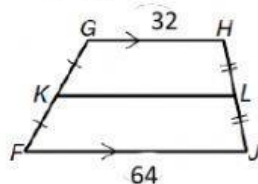
6. Find the value of x.

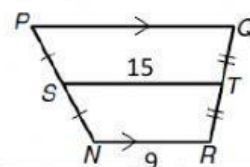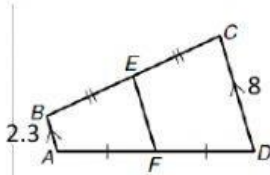7. AC = 4x + 9, BD = 6x – 12. Find the value of x.

Find each length.

8. KL

9. PQ

10. EF

11. WX