Polygons/ Quadrilaterals
Geometry

1) Two of the three **interior** angles in a triangle have measures 75°, and 81°. Find the measure of the third interior angle.

2) Three of the four **interior** angles in a quadrilateral have measures 105°, 38°, and 152°. Find the measure of the fourth interior angle.

3) Four of the five interior angles in a pentagon have measures 143°, 72°, 67°, and 149°. Find the measure of the fifth interior angle.

4) Seven of the eight interior angles in an octagon have measures 121°, 95°, 108°, 157°, 178°, 143°, and 179°. Find the measure of the eighth interior angle.

5) Four of the five **exterior** angles in a pentagon have measures 29°, 71°, 54°, and 99°. Find the measure of the fifth exterior angle.

6) Six of the seven **exterior** angles in a heptagon have measures 17°, 65°, 81°, 45°, 77°, and 39°. Find the measure of the seventh exterior angle.

7) The measures of the exterior angles of a quadrilateral are 6x, 10x, 3x, and 5x. Find the measure of each angle.

8) The measures of the exterior angles of a nonagon are 4x, 7x, 3x, 2x, 8x , 10x, 6x, x and 4x. Find the measure of each angle.

9) The measures of the exterior angles of a triangle are 4x + 15, 5x + 13, and 7x – 4. Find the measure of each angle.

10) The measures of the exterior angles of a hexagon are 4x + 4, 2x, 5x + 1, 3x, 4x - 3, and 8x – 6. Find the measures of each angle.

11) The sum of the interior angles of a polygon is 720°. How many sides does the polygon have?

12) The sum of the interior angles of a polygon is 1980°. How many sides does the polygon have?

Find the measure of each interior and each exterior angle in each of the following regular polygons.
13) pentagon   14) heptagon   15) dodecagon   16) 15-gon

17) The sum of the angle measures in a regular polygon is 540°. Find the measure of each angle.

18) The sum of the angle measures in a regular polygon is 1440°. Find the measure of each angle.

The horizontal segments below are evenly spaced. Find the lengths of the missing horizontal segments.

19)

10m

22m

20)

25 ft

69 ft