

## Chapter 6

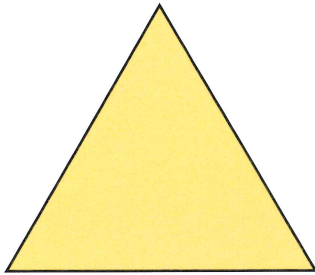
# Polygons

A **polygon** is a plane figure having three or more sides. Polygons are named according to the number of sides they have. The more common polygons have their own names:

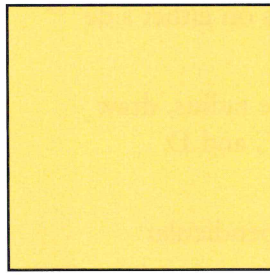
<b>Triangle</b>	3 sides	<b>Heptagon</b>	7 sides
<b>Quadrilateral</b>	4 sides	<b>Octagon</b>	8 sides
<b>Pentagon</b>	5 sides	<b>Nonagon</b>	9 sides
<b>Hexagon</b>	6 sides	<b>Decagon</b>	10 sides

## Regular Polygons

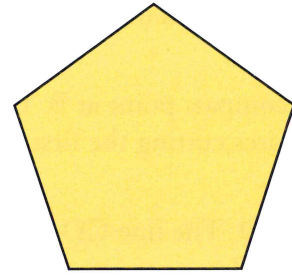
When all the sides and all the angles of a polygon are equal, it is called a **regular polygon**. The figure below shows the first eight **regular polygons**. In this chapter, we will study the **regular pentagon**, the **regular hexagon**, the **regular octagon**, the **regular nonagon** and the **regular decagon**.



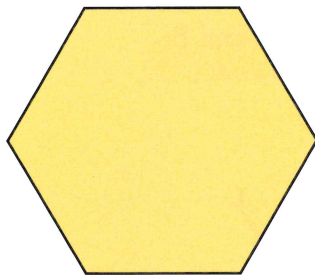
Equilateral Triangle



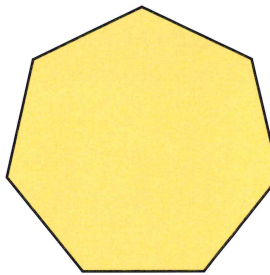
Square



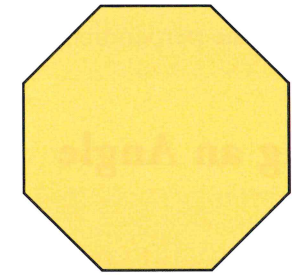
Pentagon



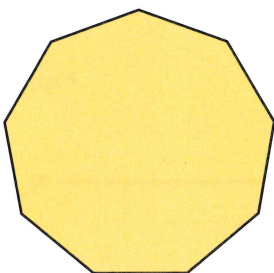
Hexagon



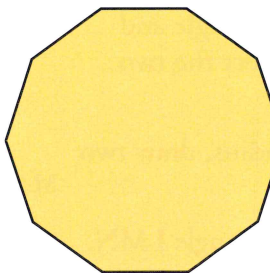
Heptagon



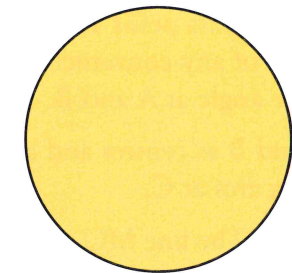
Octagon



Nonagon



Decagon



Circle

A circle is also included. This is the limiting case, which results if we imagine that the number of sides of the regular polygon is increased to infinity. The polygon is now circular and the sides are points.

A **regular polygon** has equal sides and equal angles.