Perimeter and Area of Composite Figures and Regular Polygons
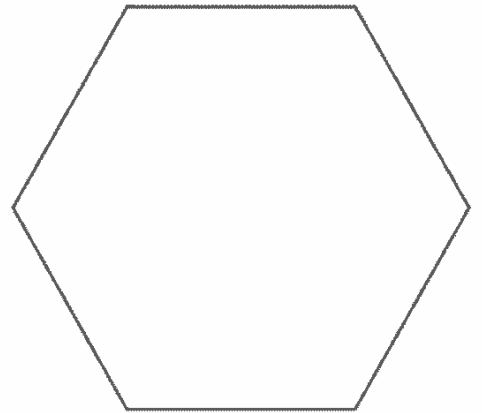
Recall:

A **regular polygon** is a polygon with equal sides and equal angles.

New Term:

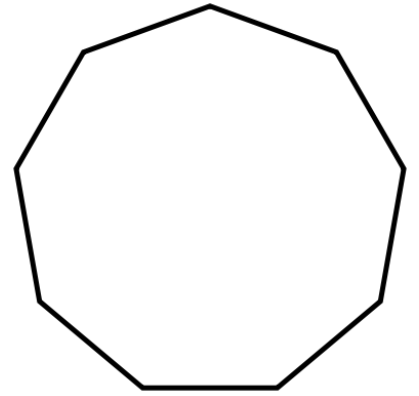An **apothem** of a polygon is the perpendicular distance from the centre of the shape to each side.

Example 1:

Explain how you would find the perimeter and area of a regular hexagon with a side length of 3 cm and an apothem of 4.5 cm.

Example 2:

Determine the perimeter and area of a regular nonagon with a side length of 7.5 cm and an apothem of 10 cm.

Formulas for Regular Polygons:

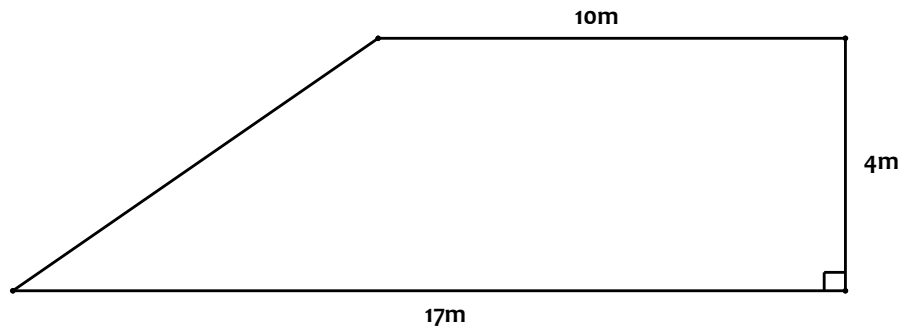|	
Perimeter = nl	where n is the number of sides and l is the side length.
Area = $\dfrac{Pa}{2}$	where P is the perimeter and a is the length of the apothem.

New Term:

A **composite figure** is a two dimensional shape made from a combination of several different shapes.
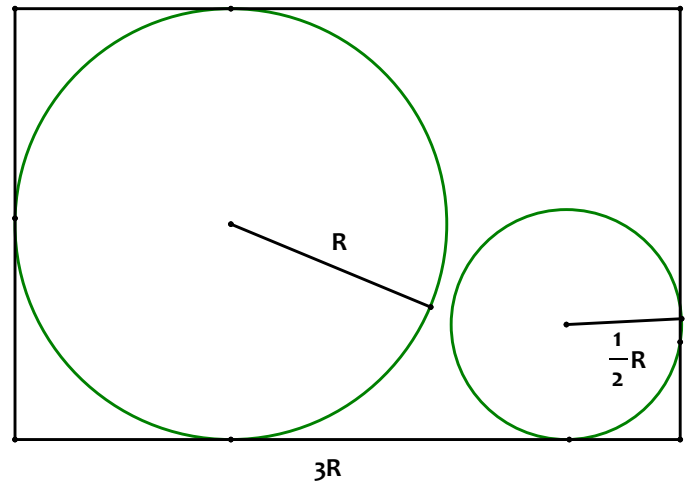
Example 3:

Find the perimeter and area of the following composite shape:

Example 4:

a) Determine a formula for the area of the two circles below:

b) Determine a formula for the area around the circles.

c) If R = 6 cm, what is the area around the two circles?