**Investigating Circles**

All points on a circle are the same distance from the centre of the circle. This distance is the **radius** of the circle.

The longest segment in any circle is the **diameter** of the circle. The diameter passes through the centre of the circle. The diameter is two times the length of the radius, or the radius is one-half the length of the diameter.



Let *r* represent the radius, and *d* the diameter. Then the relationship between the radius and diameter of a circle is:

*d* = 2*r*

Example 1: A circle has a diameter of 3.8 cm. What is the radius?

Example 2: A circular tabletop is to be cut from a rectangular piece of wood that measures 1.4 m by 1.8 m. What is the radius of the largest tabletop that could be cut? Justify your answer.