**TRIGONOMETRY – RADIAN MEASURE**

A circle of radius 1 is known as a unit circle.

The circumference of the unit circle is 2r = 2(1) = 2.

Since a full revolution through the circle measures 360 degrees, an angle measures 1 degree if it can be obtained by rotating a ray exactly 1/360 of a complete counter-clockwise revolution.

A positive angle measures 1 radian if, when that angle is placed at the centre of a unit circle, it subtends and arc of length 1.

If a positive angle subtends the entire circumference of a unit circle (when placed at its centre) and since the circumference of a unit circle has length 2, the radian measure of a full revolution is equal to 2. Thus, 2 radians = 360 degrees which gives

** radians = 180 degrees**

1 radian =  degrees = 57.3 degrees

*and*

1 degree =  radians = 0.0175 radian

**Example 1**: 60o = 60o x 

**Example 2**: 5 radians = 5 radians x = 286.5 degrees

A central angle of t radians in a circle of radius r subtends an arc of length s = rt. (Remember that the measure of the angle must be in radians, not degrees).