A central angle of a circle is an angle that is contained between two radii. For example, in the following diagram angle A is the central angle.


A radian is a measure of the central angle of a circle subtended by an arc (or part of a circle) that is the same length as the radius of the circle. Using radians allows you to express the measure of an angle as a real number without units. The central angle formed by one complete revolution in a circle is $360^{\circ}$, or $2 \pi$ in radian measure. This is useful when converting from radians and into radians.

Example 1: Sketch an angle with each given measure, and then estimate, to the nearest tenth, the equivalent measure in radians.
180
a) $120_{90}^{\circ}$

(b) $220^{\circ}$


Example 2: Convert the following measurements into degrees.
a) 1.4
(b) 2.8

$$
1.4 \times \frac{360}{2 \pi}=80^{\circ} \quad 2.8 \times \frac{360^{\circ}}{2 \pi}=160^{\circ}
$$

Example 3: Which measure is greater $400^{\circ}$ or 6.5 radians?

$$
400^{\circ} \times \frac{2 \pi}{360^{\circ}}=6.98
$$

