

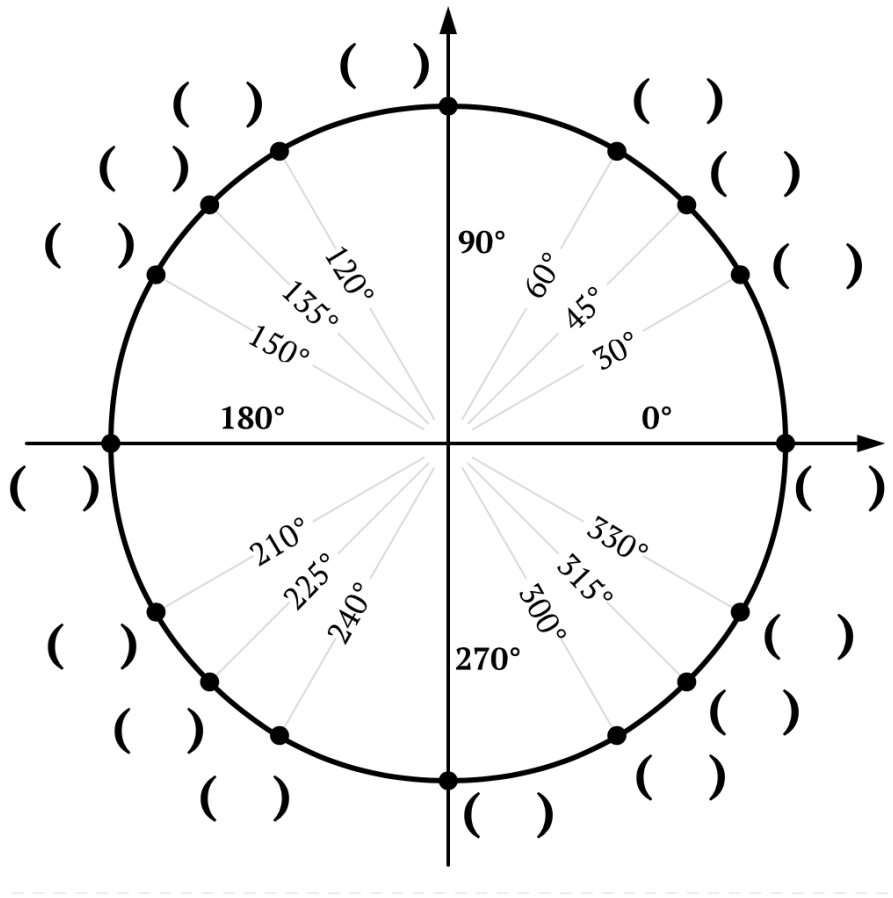
Section 3-4 Radian Measure and Degree Measure

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Consider a circle with radius  $r$ . One **radian** is the measure of an angle in standard position whose terminal side intercepts an arc of length  $r$ .

Since the circumference of a circle is  $2\pi r$ , there are  $2\pi$  radians in a full circle.

So degrees and radians are related:  $360^\circ = 2\pi$        $180^\circ = \pi$



Find the exact radian measure of the angle(no decimals).

1.  $120^\circ$                       2.  $450^\circ$                       3.  $-225^\circ$                       4.  $105^\circ$

Find the exact degree measure of the angle given in radians. (no decimals)

5.  $\frac{5\pi}{6}$                       6.  $4\pi$                       7.  $-\frac{\pi}{2}$

Find the degree measure in decimal form of the angle given in radians.

8.  $3$  radians

9.  $0.62$  radians

Find the function value (in decimal form) for the angle in radians.

10.  $\cos 2$

11.  $\cot 4$

Find the radian measure (decimal form) of the angle.

12.  $\tan^{-1} 5$

13.  $\csc^{-1} 20.6$