

This lesson is on **reference** angles.

They are important because 1) they can help you find **rotation** angles

2) they can be used to find trigonometric ratios
(later in this chapter)

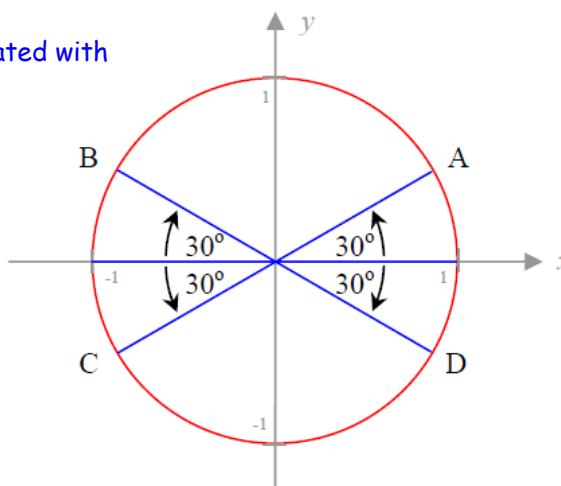
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Reference Angles

Definition of Reference Angle

When an angle is drawn in standard position, its reference angle is the positive acute angle measured from x-axis to the angle's terminal side.

What rotation angles would be associated with
a 30° reference angle?



Determining rotation angle from a known reference angle ...

Let's develop a rule for each of the quadrants...

$$\text{Reference Angle} = \theta_R$$

$$\text{Rotation Angle} = \theta$$

Complete the chart shown below...

Reference Angle	Quadrant	Rotation Angle
24°	3	
48°	2	
75°	4	
80°	1	

Determine the reference angle associated with each of the following rotation angles...

Rotation Angle	Reference Angle
325°	
-174°	
1240°	

Practice problems...

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