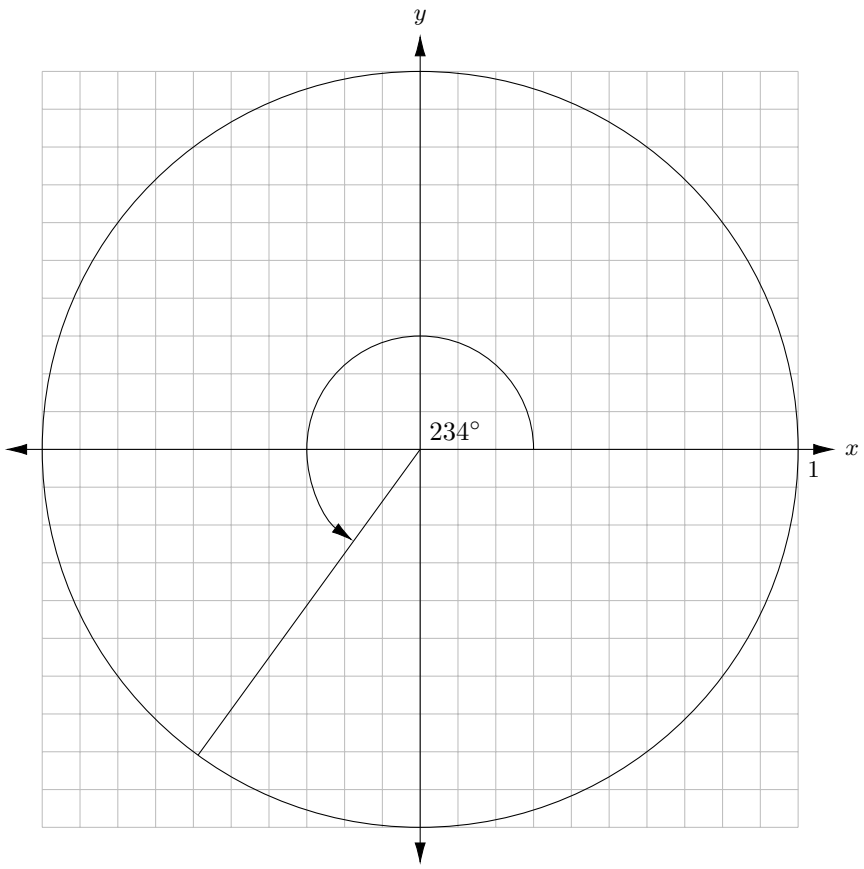
Learning Outcomes: What should you be able to after watching the videos?

- Video 1: The Unit Circle
  - Identify the formulas for the six trigonometric functions using points on the unit circle.
  - Estimate the values of the six trigonometric functions using a graph.
- Video 2: Special Coordinates on the Unit Circle
  - Identify the coordinates of points on the unit circle for the common angles.
  - Convert between degrees and radians for the common angles.
  - Reproduce the chart of sine and cosine values for the standard first quadrant angles.
- Video 3: Applications of the Unit Circle
  - Evaluate the six trigonometric functions at the common angles.
  - Use periodicity to evaluate the six trigonometric functions.
  - Identify which of the six trigonometric functions are even and odd and use this information to perform calculations.



#1) State the formulas for the six trigonometric functions using the unit circle.

$\sin\theta =$ $\cos\theta =$ $\tan\theta =$

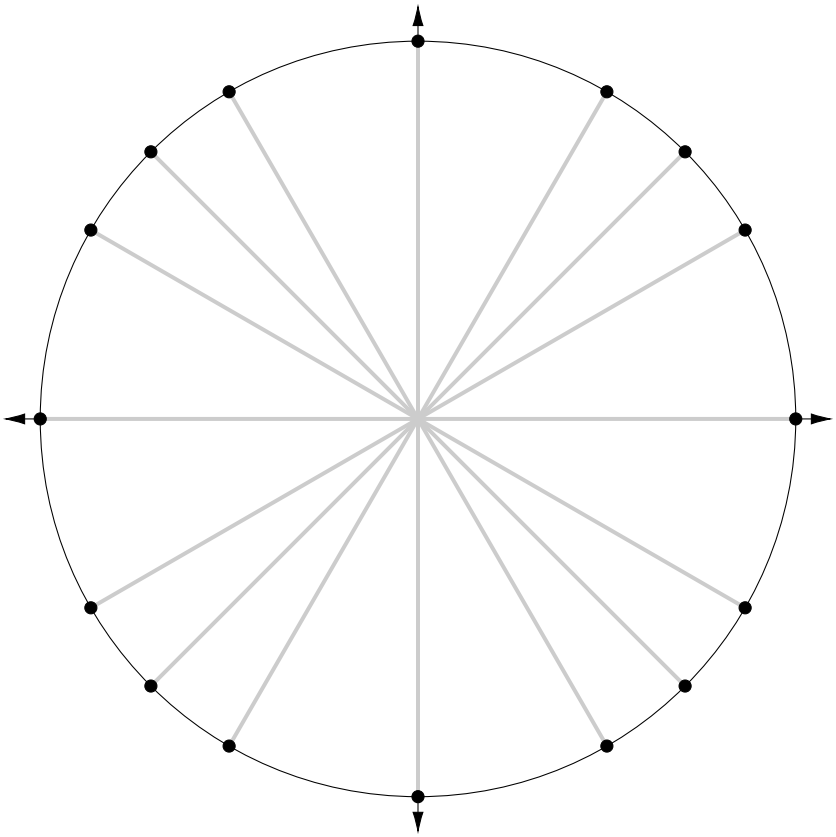
$\csc\theta =$ $\sec\theta =$ $\cot\theta =$

#2) Use the diagram on the previous page to estimate the values of the trigonometric functions.

$\sin 234^\circ =$ $\cos 234^\circ =$ $\tan 234^\circ =$

$\csc 234^\circ =$ $\sec 234^\circ =$ $\cot 234^\circ =$

#3) Identify the angles (in both degrees and radians) and the corresponding coordinates in the diagram below.



#4) Complete the following chart of values:

θ (Degrees)	0°	30°	45°	60°	90°
θ (Radians)	0	$\frac{\pi}{6}$	$\frac{\pi}{4}$	$\frac{\pi}{3}$	$\frac{\pi}{2}$
$\sin(\theta)$					
$\cos(\theta)$					

#5) Complete the following chart using your knowledge of the standard angles of the unit circle. Be sure to convert the angle measure so that both degrees and radians are listed for each.

θ (Degrees) / θ (Radians)	60°	$\frac{5\pi}{6}$	225°	$\frac{4\pi}{3}$	270°
$\sin(\theta)$					
$\cos(\theta)$					
$\tan(\theta)$					
$\csc(\theta)$					
$\sec(\theta)$					
$\cot(\theta)$					

#6) Use periodicity to complete the following chart using your knowledge of the standard angles of the unit circle. Be sure to convert the angle measure so that both degrees and radians are listed for each.

θ (Degrees) / θ (Radians)	450°	$-\frac{7\pi}{4}$	-120°	$\frac{23\pi}{6}$	1080°
$\sin(\theta)$					
$\cos(\theta)$					

#7) Suppose that $\sin(\theta) = 0.8$ and $\cos(\theta) = 0.6$. Compute the following values:

$\sin(-\theta) =$ $\cos(-\theta) =$ $\tan(-\theta) =$

$\csc(-\theta) =$ $\sec(-\theta) =$ $\cot(-\theta) =$

Was any aspect of any of the videos confusing or unclear? Do you have any questions?