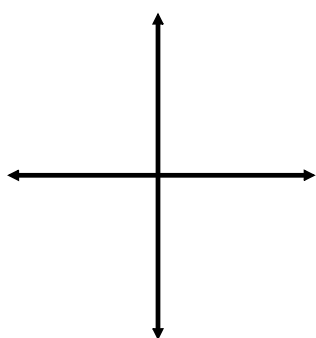


Section 4.4 Trigonometric functions of any angle

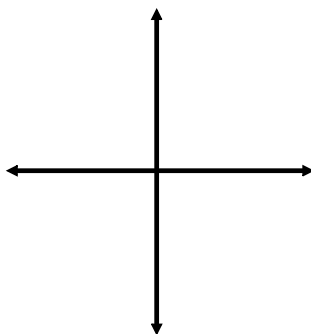
Reference Angle: acute, positive, vertex at origin, rays are terminal side of θ and x-axis.

Find the reference angle:

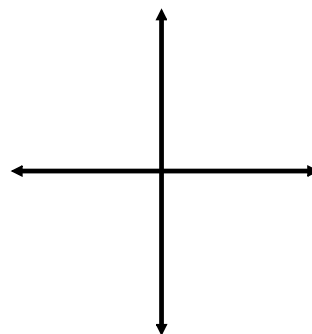
$$\theta = 300^\circ$$



$$\theta = -135^\circ$$



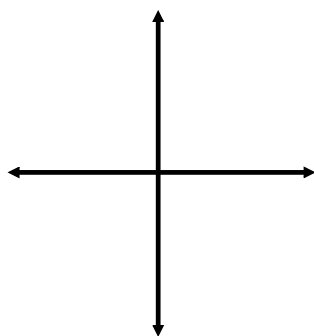
$$\theta = 63^\circ$$



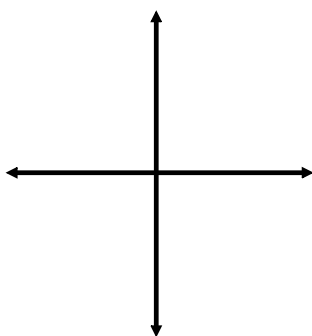
Reference triangle: terminal side is hypotenuse, one leg is x-axis, θ is at the origin

Draw the reference triangle and find the reference angle:

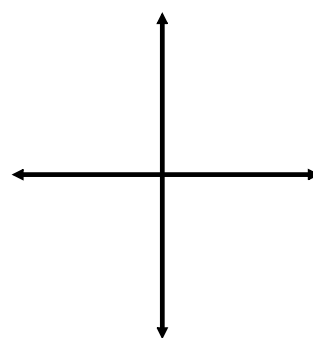
$$\theta = 5\pi/9$$



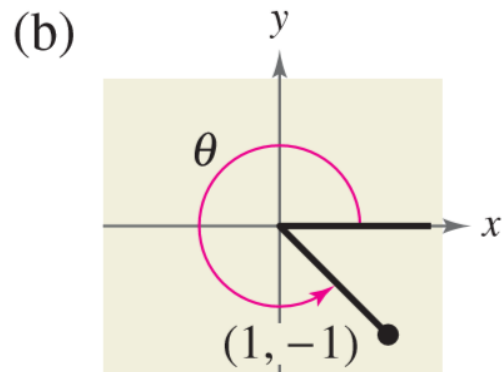
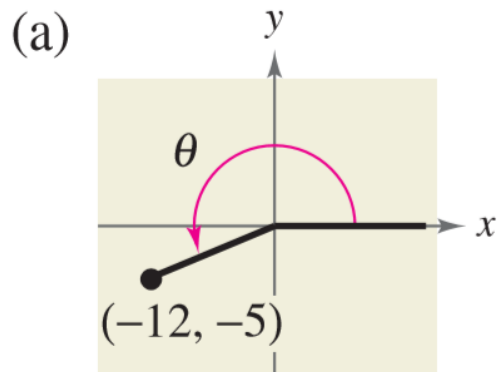
$$\theta = -15\pi/11$$



$$\theta = 14\pi/9$$



Find the exact values of the six trigonometric functions of θ .



The point is on the terminal side of an angle in standard position. Determine the exact value of the six trigonometric functions of the angle.

$(-4, 10)$

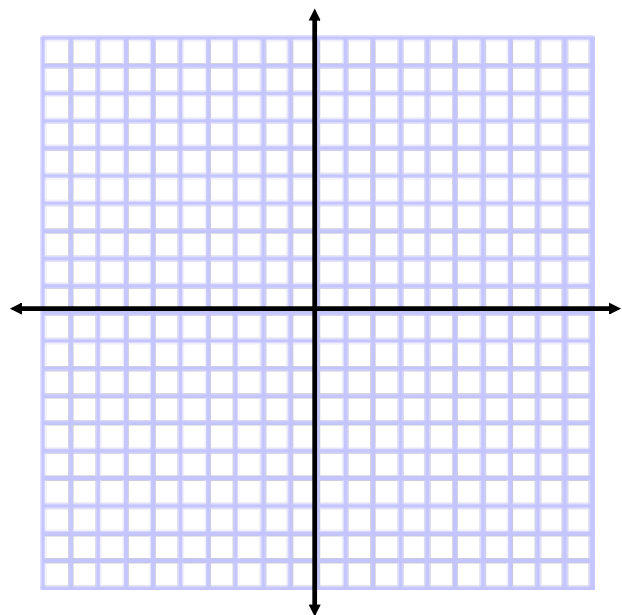
$(-3, -5)$

Find the exact values of the remaining trigonometric functions of θ satisfying the given conditions.

$$\cot\theta = -3 \text{ and } \cos\theta > 0$$

The terminal side of θ lies on the given line in the specified quadrant. Find the exact values of the six trigonometric functions of θ by finding a point on the line.

$$4x + 3y = 0 \text{ and Quad IV}$$



Use the function value to find the indicated trigonometric value in the specified quadrant.

$$\csc\theta = -2 \text{ in quad IV} \quad \text{Find: } \cot\theta =$$

Section 4.4 Pgs. 294-296: #11, 15, 17, 19-23, 25,
33-89 odd, 95, 97, 98, 101, 102