

Find the measure of each angle θ , where $0^\circ \leq \theta < 360^\circ$, to the nearest tenth of one degree.

1) $\sin \theta = -0.5864$

a. Ask yourself: Where is sine negative?

Sine is negative in Quadrants 3 & 4.

b. Find θ^R : Calculate $\sin^{-1}(-0.5864)$

$$\theta^R = \sin^{-1}(-0.5864) \approx -35.9$$

Ignore the negative; this is your REFERENCE ANGLE

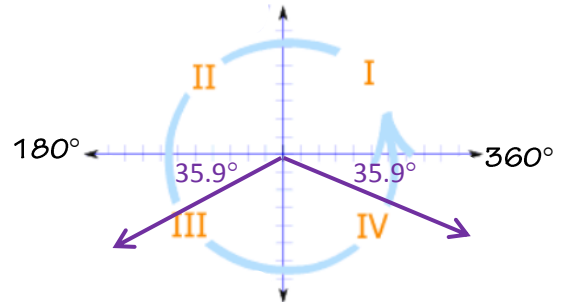
c. Find θ

In Quadrant 3

$$\theta = 180 + 35.9 = 215.9^\circ$$

In Quadrant 4

$$\theta = 360 - 35.9 = 324.1^\circ$$



2) $\sec \theta = 3.1909$

a. Ask yourself: Since secant is the reciprocal of cosine, where is cosine positive?

Cosine is positive in Quadrants 1 & 4.

b. Find θ^R : Calculate $\cos^{-1}(1/3.1909)$

$$\theta^R = \cos^{-1}(1/3.1909) \approx 37.2$$

c. Find θ

In Quadrant 1

$$\theta = 37.2^\circ$$

In Quadrant 4

$$\theta = 360 - 37.2 = 322.8^\circ$$

