

Unit 6: Standard Position Trigonometry**6.2 Trigonometric Ratios of Any Angle**

Key questions yet to be answered about trigonometry:

- How can an angle greater than 90° have primary trigonometric ratios? ex. $\tan 200^\circ = 0.3640$
- How can an angle have a negative primary trigonometric ratio? ex. $\cos 100^\circ = -0.1736$

Use your calculator to determine the following ratios to 4 decimal places:

$\sin 30^\circ =$

$\cos 40^\circ =$

$\tan 50^\circ =$

$\sin 150^\circ =$

$\cos 140^\circ =$

$\tan 130^\circ =$

$\sin 210^\circ =$

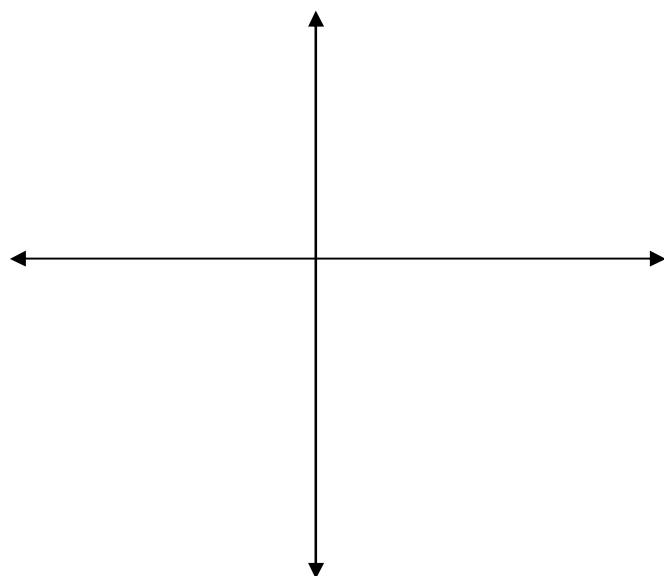
$\cos 220^\circ =$

$\tan 230^\circ =$

$\sin 330^\circ =$

$\cos 320^\circ =$

$\tan 310^\circ =$

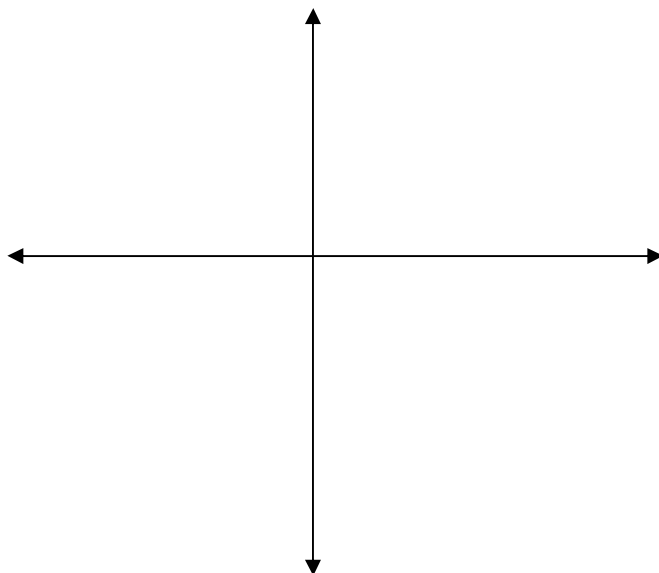


$\sin \theta =$

$\cos \theta =$

$\tan \theta =$

Determine which trig ratios are positive for each quadrant.



ex. Without using a calculator state if each ratio is positive or negative:

$$\sin 260^\circ$$

$$\cos 315^\circ$$

$$\tan 91^\circ$$

ex. The point $P(-3, 6)$ lies on the terminal arm of an angle θ in standard position. Draw θ and determine the ratios for $\sin \theta$, $\cos \theta$ and $\tan \theta$ both as exact values and approximations to 4 decimal places.

ex. Suppose θ is an angle in standard position with terminal arm in quadrant III and $\sin \theta = -\frac{3}{5}$, find:

a) possible coordinates of A, a point on the terminal arm.

b) exact values of $\cos \theta$ and $\tan \theta$



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