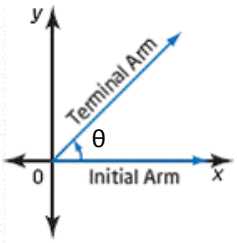
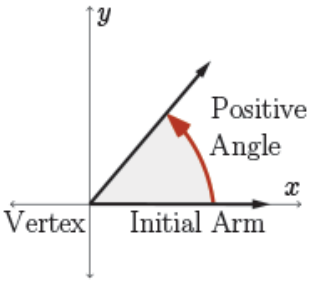
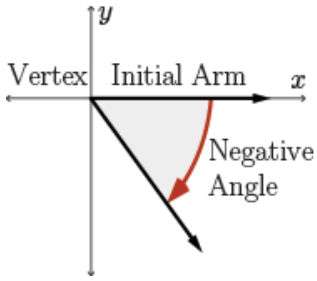
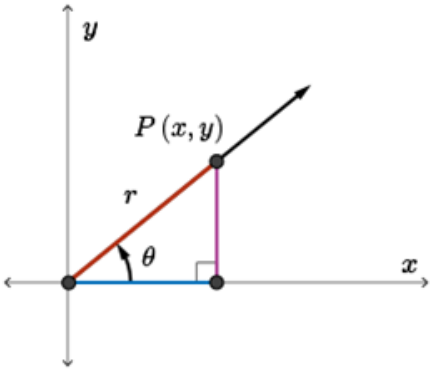
Lesson 4.2: CAST Rule and Angles Greater Than 90°



- The vertex of angle θ is at the _____.
- The _____ is fixed on the positive x-axis.
- The _____ rotates about the origin.
- The measure of the angle is the amount of rotation from the initial arm to the terminal arm.
- An angle is in _____ if its vertex is at the origin and its initial arm is on the positive x-axis.



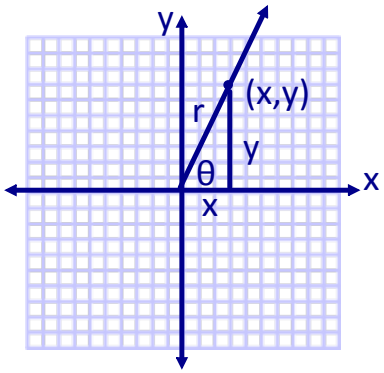




- Let _____ be a point on the terminal arm of angle θ in standard position.
- The side _____ to θ is _____.
- The side _____ to θ is _____.
- The hypotenuse, ____, can be found using _____.

Exploring the trig ratios on a coordinate grid:

a) If _____ **Terminal arm is in Quadrant ____**



r^2 =

SOH CAH TOA

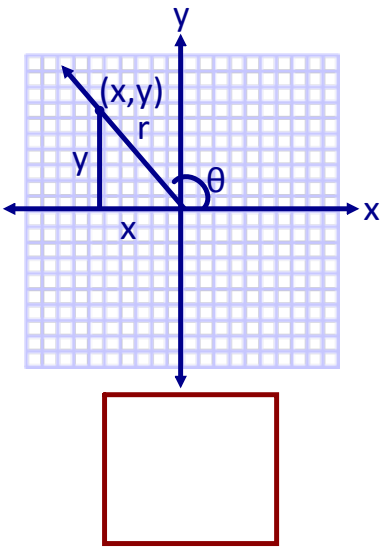
sinΘ=

cosΘ=

tanΘ=

b) If _____ **Terminal arm is in Quadrant ___**

SOH CAH TOA



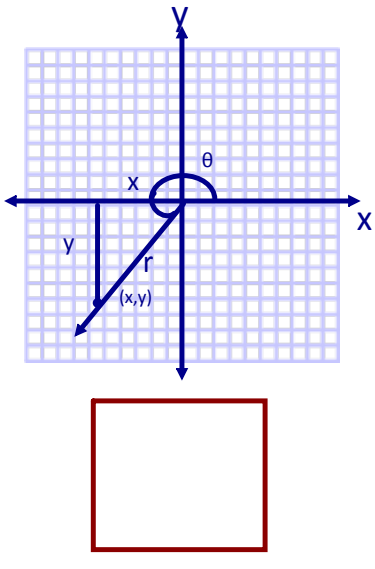
sinΘ=

cosΘ=

tanΘ=

c) If _____ **Terminal arm is in Quadrant ____**

SOH CAH TOA

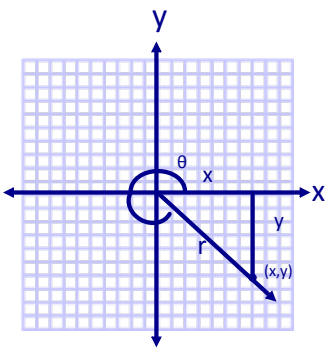


sinΘ=

cosΘ=

tanΘ=

d) If _____ **Terminal arm is in Quadrant ____**



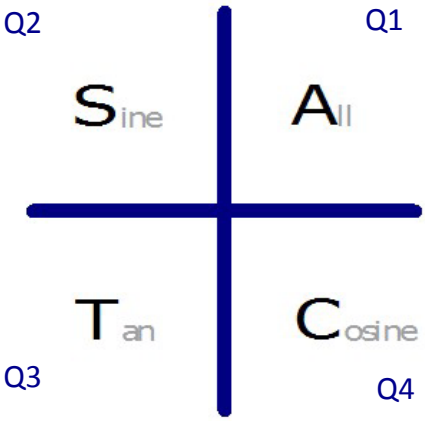
SOH CAH TOA

sinΘ=

cosΘ=

tanΘ=

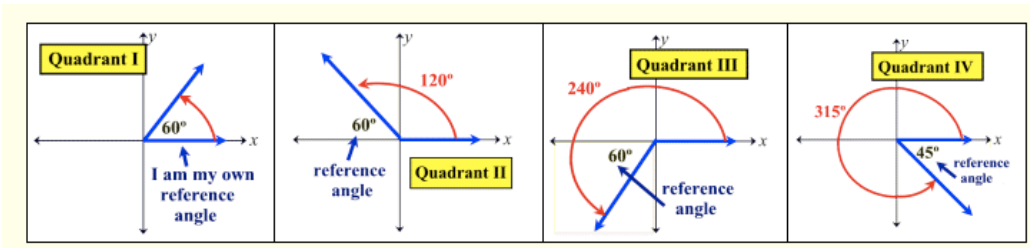
The _____ tells us which trig ratios are positive and which are negative for a given quadrant .

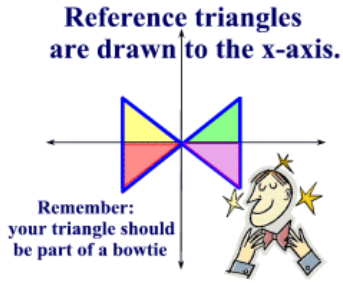


Principal Angle

Reference Angle or Related Acute Angle

The Principal Angle and the Reference Angle have the _____.
The only differences are with _____.





Ex. 1: Given the point P on a terminal arm, determine sin θ, cos θ and tan θ. Include a diagram.

a) P(3,4)

b) P(-3,4)

c) P(5,-1)

Ex. 2: Evaluate, to four decimal places.

a) $\cos 154^{o}$

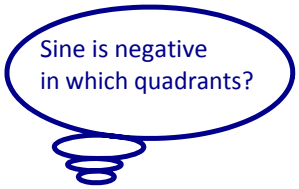
b) $\tan 230^{o}$

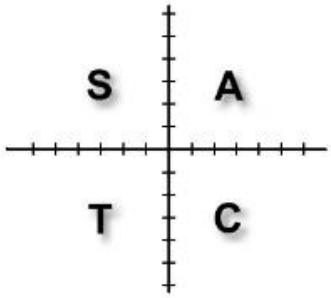
Ex. 3: Draw an angle of 125^{o} in standard position.

What is the principal angle? What is the related acute angle?

Ex. 4: Determine all angles between 0^0 and 360^0 that have the following trig ratios. Include a diagram.

a) sin θ = -0.26





b) cos θ = 0.34

c) tan θ = -2.14

Ex. 5: If $\cos\theta = \frac{-3}{\sqrt{17}}$ where $90^0 < \theta < 180^0$, determine sin θ and tan θ.