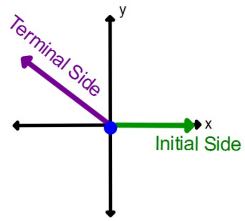
Wednesday, April 22, 2020

Angles in Standard Position and Reference Angles

Angles is Standard Position:

Vertex is at the origin.

One of the rays (sides) is on the positive x-axis.



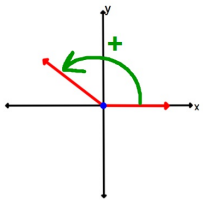
Initial Side:
The side on the Positive x-axis.

It's where the angle starts

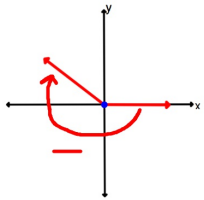
Terminal Side:
The other ray that forms the angle.

It's where the angle stops.

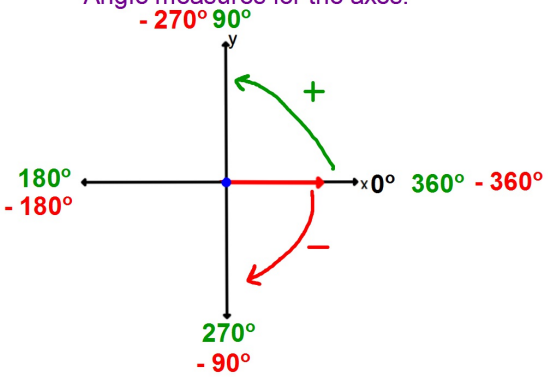
Positive Angles are measured starting from the positive x-axis and rotating in a Counter-Clockwise direction.



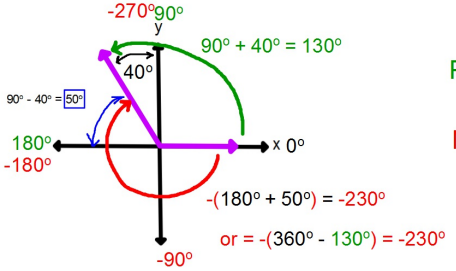
Negative Angles are measured starting from the positive x-axis and rotating in a Clockwise direction.



Angle measures for the axes:



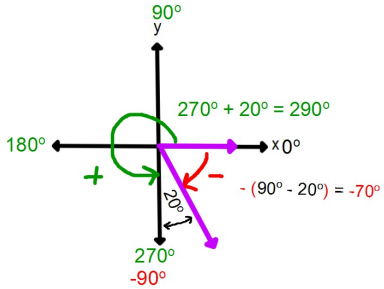
State both a positive and negative measure for this angle in Standard Position.



Pos: θ=130°

Neg: θ= - 230°

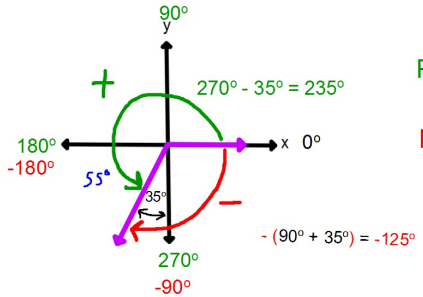
State both a positive and negative measure for this angle in Standard Position.



Pos: θ= 290°

Neg: θ= - 70°

State both a positive and negative measure for this angle in Standard Position.



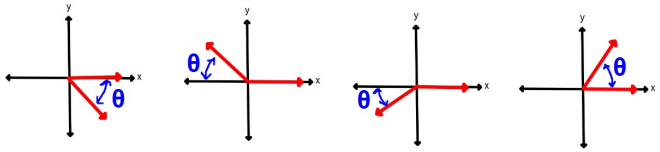
Pos: θ=235°

Neg: θ= - 125°

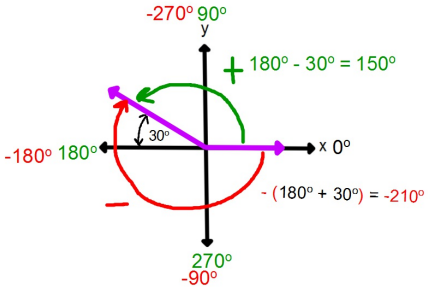
Reference Angle:

The acute angle formed by the terminal side and the x-axis.

θ is the reference angle for each angle shown in Standard Position



Use the given reference angle to state both a positive and negative measure for this angle in Standard Position.



Pos: θ=150°

Neg: θ= - 210°

The measure of a Reference Angle can be calculated by finding the difference between the terminal side of the Given Angle and the measure at the nearest x-axis.

A Reference Angle is always positive so you'll be finding the POSITIVE difference (i.e. absolute value).

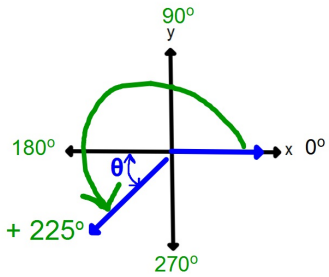
State the reference angle for the given angle that is in Standard Position:

θ=225°

Reference angle

θ = 225° - 180°

θ = 45°



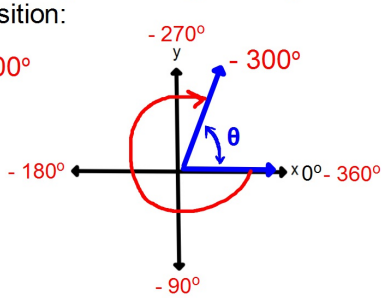
State the reference angle for the given angle that is in Standard Position:

θ= - 300°

Reference angle

θ = | -300° - -360° |

θ = 60°



You can now do Practice #20.