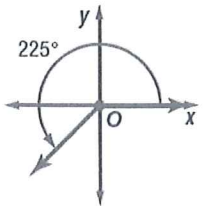
Sketching Angles Notes

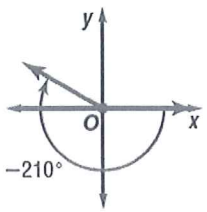
Key

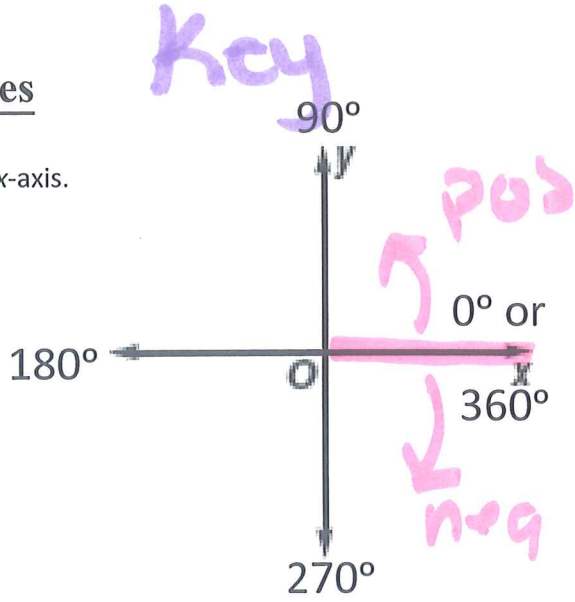
Remember: When sketching an angle, always start at the positive *x*-axis.
The positive *x*-axis represents 0 ° or 360 °.

Positive Angle Measure
counterclockwise



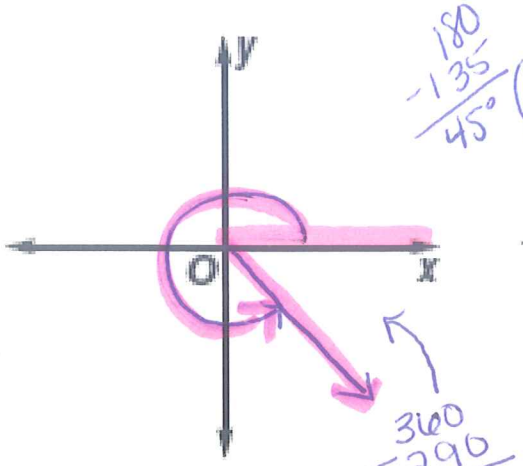
Negative Angle Measure
clockwise



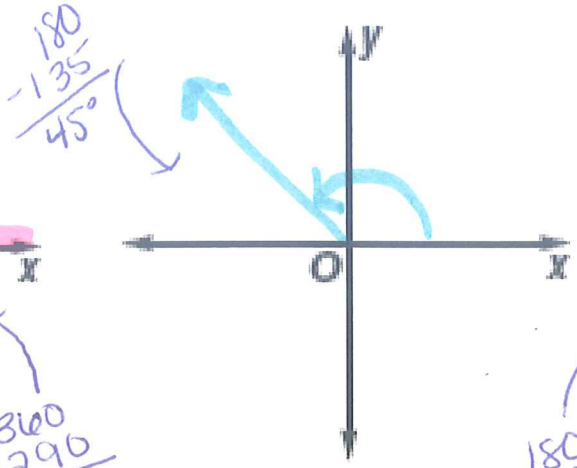


Examples: Sketch the angles.

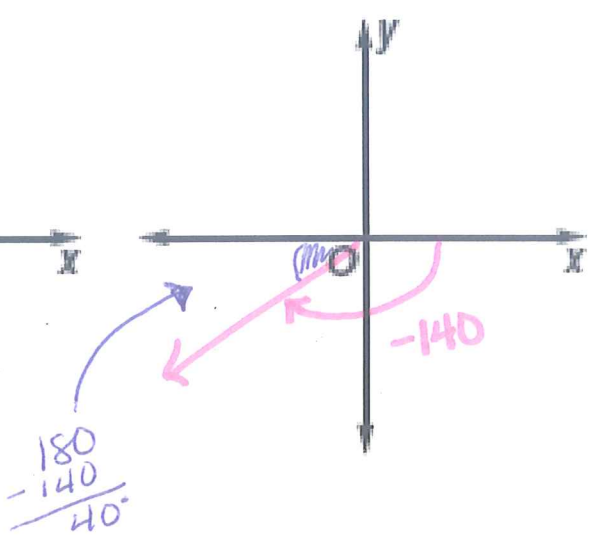
1. 290°



2. 135°

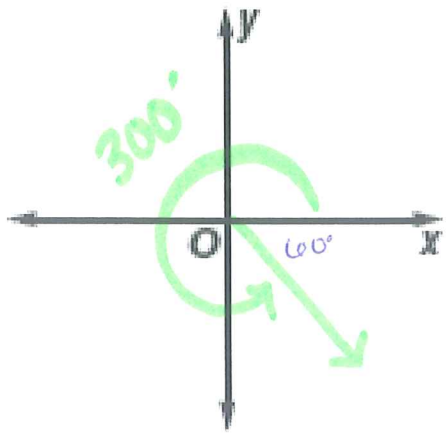


3. -140°

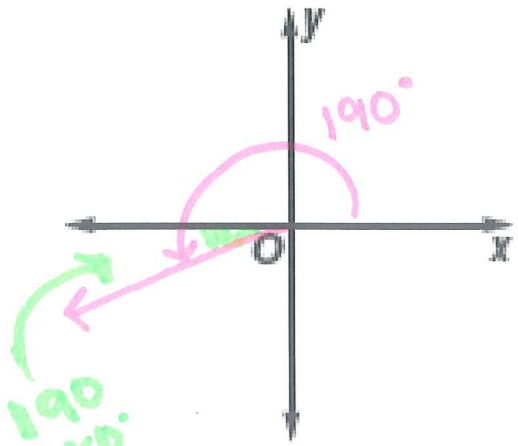


You try:

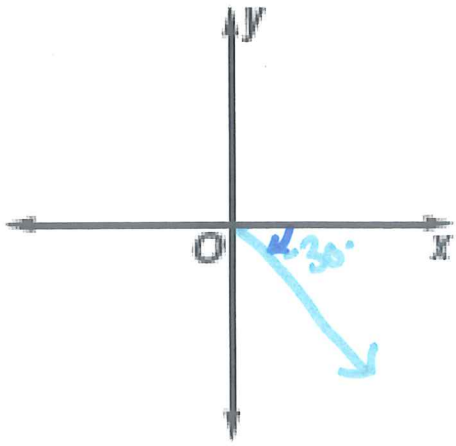
4. 300°

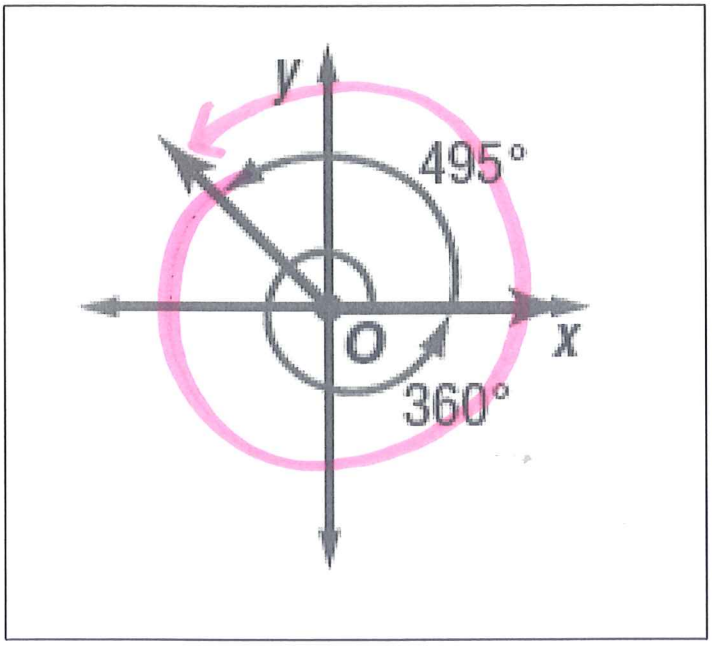


5. 190°



6. -30°





Angle of Rotation
In trigonometry, an angle is sometimes referred to as an *angle of rotation.*

What would the angle measure be if it took another full rotation?

495°
+ 360
=855°

Coterminal Angles: The graph shows a 405° angle and a 45° angle. They both share the same terminal side. When two angles in standard position have the same terminal sides, they are called co terminal angles.

405°- 360°=45°

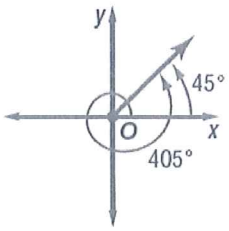
Pos: 45° or 405+360 = 765°

neg: 45°-360°

neg: -315°

In degrees, you add/subtract 360

~~**In radians, you would add/subtract 2π**~~



Examples: *Find one angle with positive measure and one angle with negative measure coterminal with each angle.*

1. 240°

Pos: 240+360

Pos: 600°

neg: 240-360

neg: -120°

2. 415°

Pos: 415 +360 Pos: 775°

Pos: 55°

neg: 415-360 = 55° still pos so subtract 360° again

55-360

neg: -305°

You try:

1. 390°

Pos: 390+360= 750° Pos

Pos: 30°

neg: 390-360 = 30° This is still Pos!, So Subtract 360 Again.

30-360

neg: -330°

2. 80°

Pos: 80+360 Pos 440°

neg: 80-360

neg: -280°