

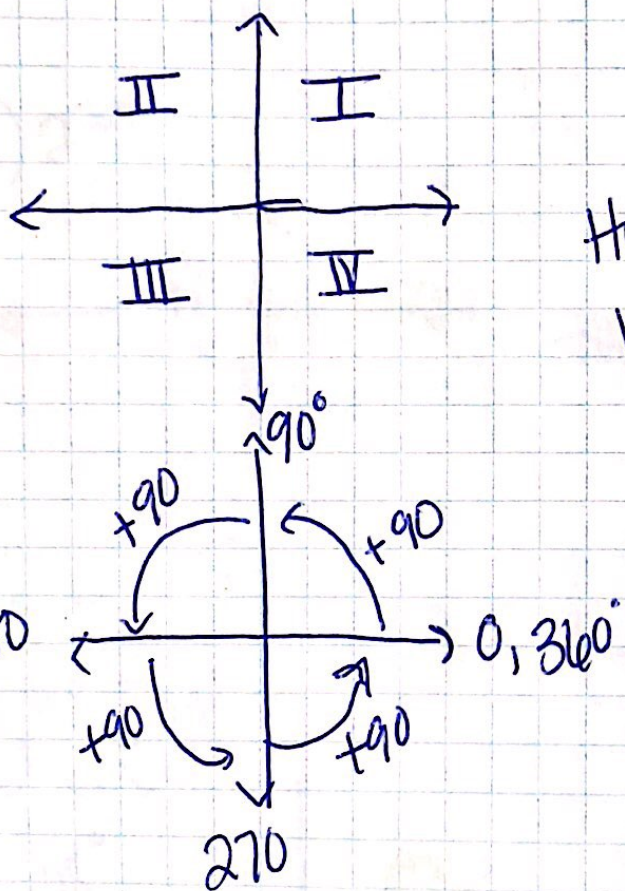
Angles in degrees



How many degrees?

360°

Let's think about our coordinate plane!



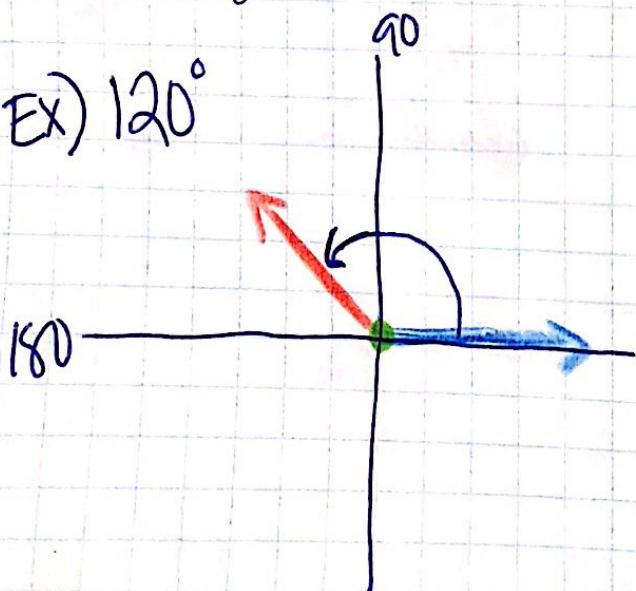
4 quadrants (sections)

How many degrees make up each section?

$$360 \div 4 = 90$$

Using this logic, we can draw angles in the coordinate plane!

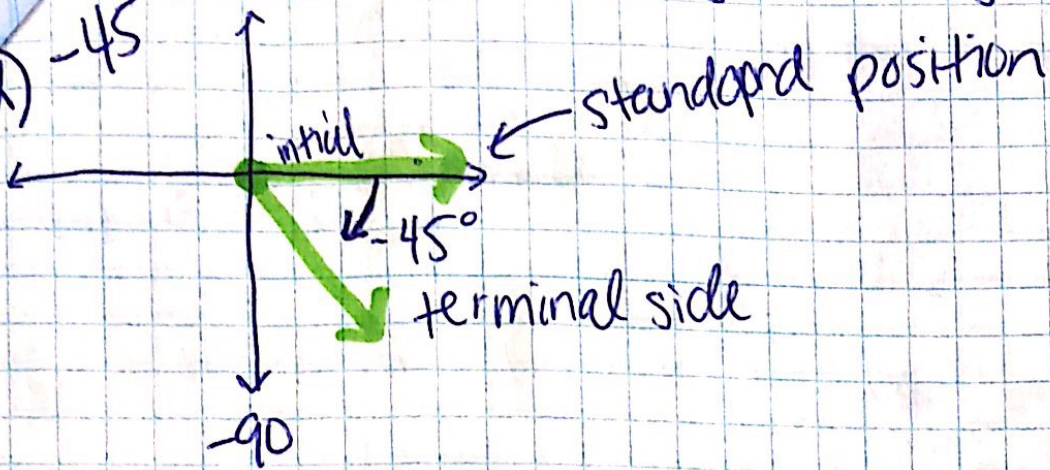
Ex) 120°



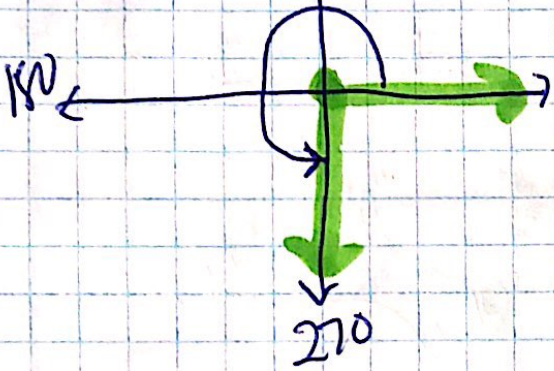
Start in standard position
begin ~~at~~ vertex at the origin, put ray on positive x-axis. We call this the initial side. Rotate our degree measure. Close out angle with ray. This is called the terminal side.

can also have negative angles.

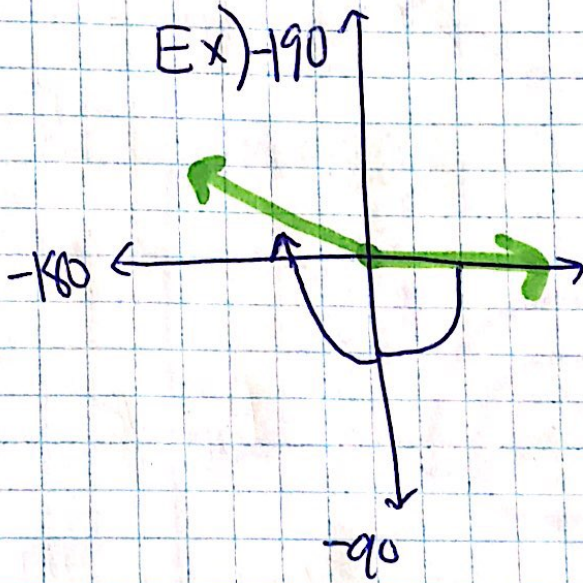
Ex) -45°



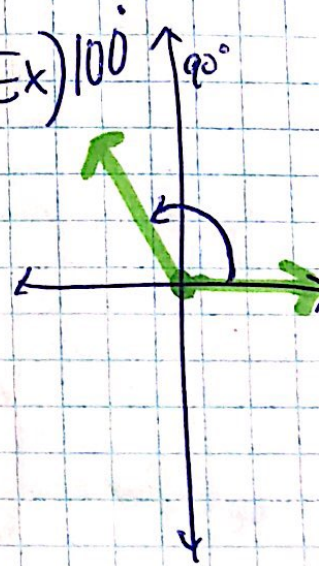
Ex) 270



Ex) -190

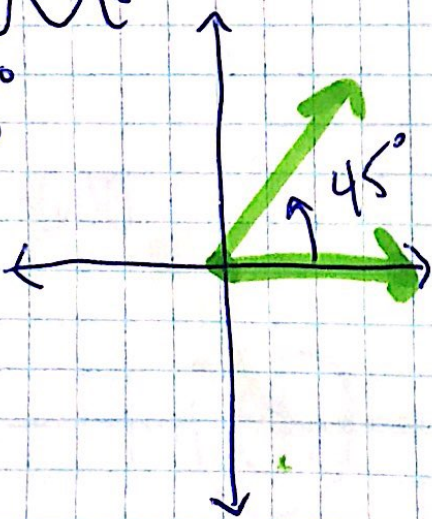


Ex) 100°

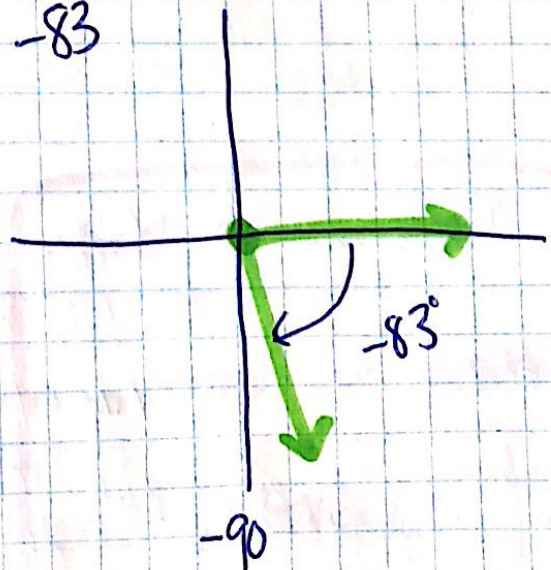


You Try!

45°

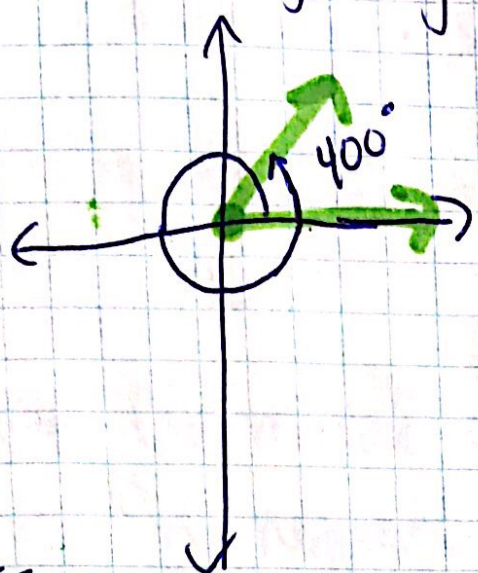


-83

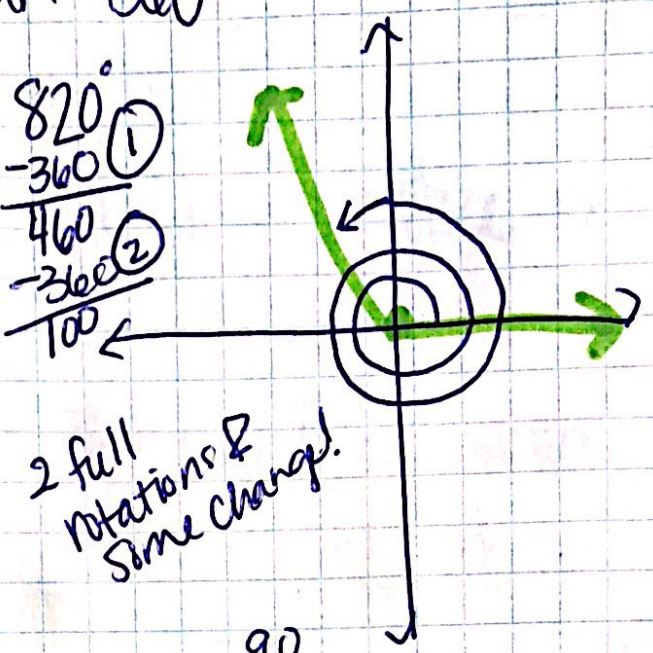


can have angles greater than 360°

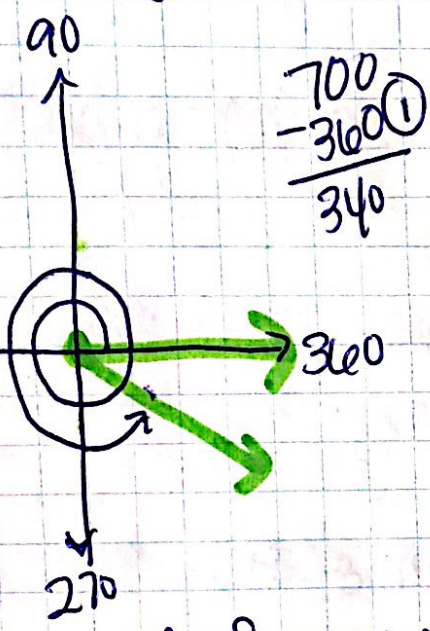
Ex 400



Ex) 820°
 $\frac{820}{-360} \textcircled{1}$
 $\frac{460}{-360} \textcircled{2}$
 $\frac{100}{}$



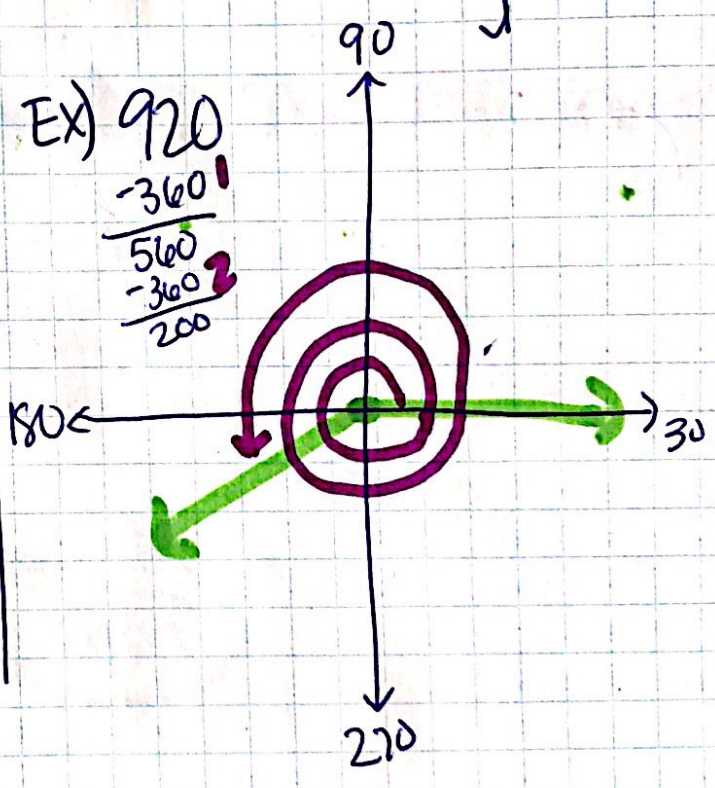
Y/N Try!
 Ex 700



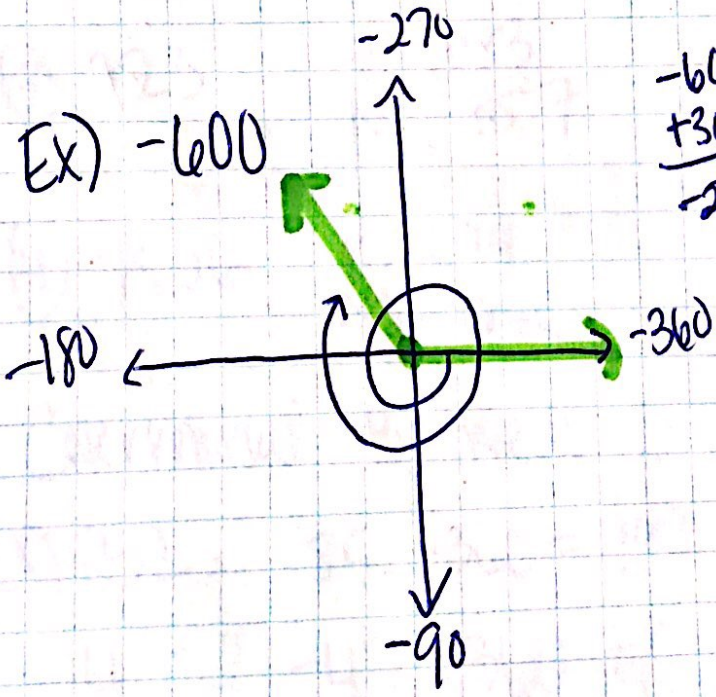
$\frac{700}{-360} \textcircled{1}$
 $\frac{340}{}$

1 full circle & some change

Ex) 920
 $\frac{920}{-360} \textcircled{1}$
 $\frac{560}{-360} \textcircled{2}$
 $\frac{200}{}$



Ex) -600



$\frac{-600}{+360} \textcircled{1}$
 $\frac{-240}{}$

~ Add for Negative Angles
 ~ Subtract for Positive Angles
 until between $|360^\circ|$

terminal Angles:

Positive Coterminal: add 360° , until our value is positive

Negative Coterminal: subtract 360 , until our value is negative.

Practice: Find a positive & negative coterminal angle!

① -200 P: $-200 + 360 = 160^\circ$
 N: $-200 - 360 = -560$

② -623 P: $-623 + 360 = -263 + 360 = 97$
 N: $-623 - 360 = -983$

③ 723 P: 1083
 N: -357

④ -1506 P: 294
 N: -1866

Coterminal Between 0 & 360 (Needs to be positive.)

ex) $852 = 852 - 360 = 492 - 360 = 132$

ex) $47 = -47 + 360 = 313$