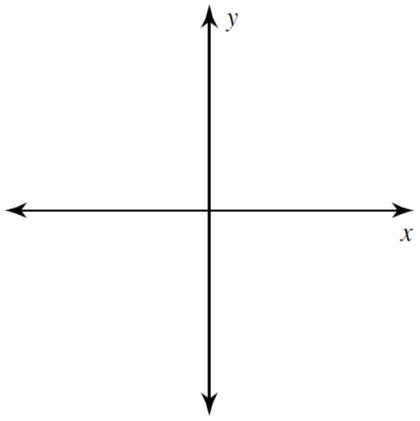
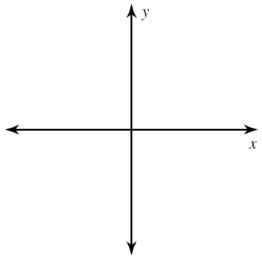
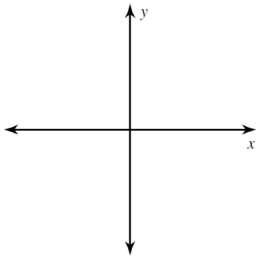
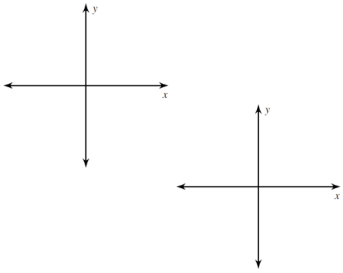
8-1 Angle and Angle Measure Notes

General Angle in Standard Position	Various Types of Common Angles		
	Positive Angles	**Negative Angles**	**Quadrant Angles**
angle → _____ 	 rotation is _____ arrow is _____	 rotation is _____ arrow is _____	 Terminal side falls on a. *x*-axis - _____ b. *y*-axis - _____

To convert from degrees (°) to radians (π) →	To convert from radians (π) to degrees (°) →
_____	_____
Convert given degree measure to radians:	Convert given radian measure to degrees:
a. 45° → _____	a. $\frac{\pi}{3}$ → _____
b. 300° → _____	b. $\frac{5\pi}{6}$ → _____

Example 1: Draw each angle in standard position. Draw the arrow of angle's direction.

a. $\theta = 48°$	b. $\theta = -212°$	c. $\theta = 270°$	d. $\theta = \frac{4\pi}{3}$	e. $\theta = -\frac{\pi}{6}$	f. $\theta = -\pi$

coterminal angles are angles that _____ (end in the same place)

To find a POSITIVE coterminal → _____ (if in deg) or _____ (if in rads)

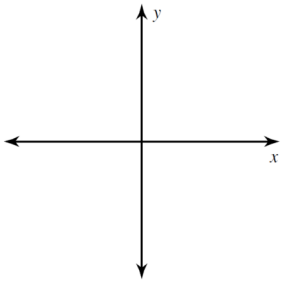
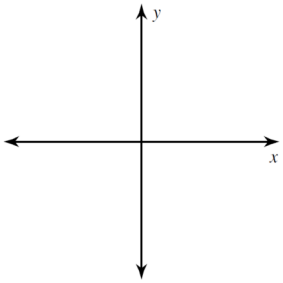
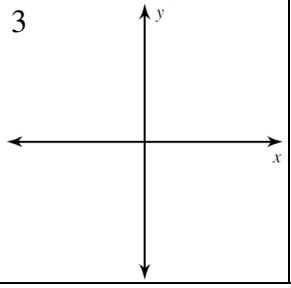
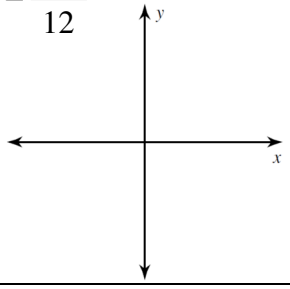
To find a NEGATIVE coterminal → _____ (if in deg) or _____ (if in rads)

Coterminal angles can contain _____

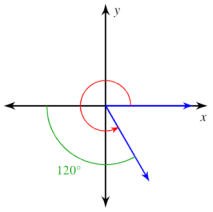
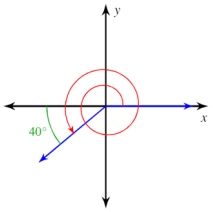
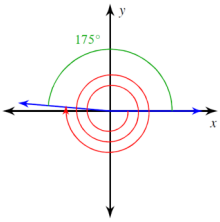
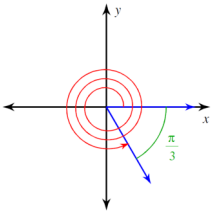
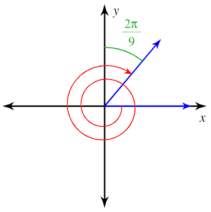
Example 2a: Find a positive and negative coterminal angle for the given angle θ.

i. $\theta = 60°$	ii. $\theta = \frac{7\pi}{6}$
positive coterminal angle = _____	positive coterminal angle = _____
negative coterminal angle = _____	negative coterminal angle = _____

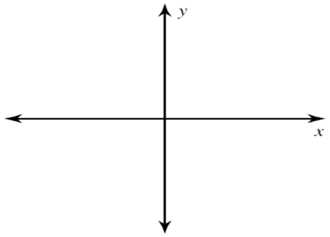
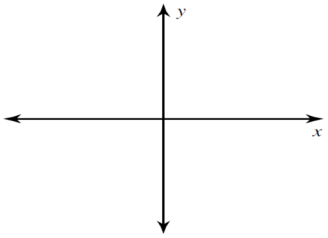
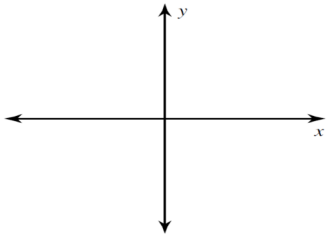
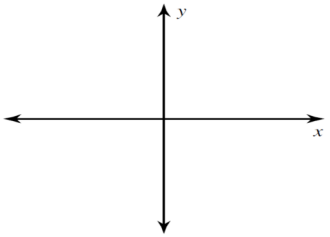
Example 2b: Draw the indicated angle. Make sure to include your direction and spirals if it goes around more than once.

i. $1116°$	ii. $-585°$	iii. $\frac{10\pi}{3}$	iv. $-\frac{49\pi}{12}$
			

Example 2c: Find the measure of each angle using the given picture. Keep units consistent.

i.	ii.	iii.	iv.	v.
				

A **reference angle** is an angle θ' associated with angle θ where θ' is an _____ formed by the terminal side of _____

Angle θ Falls in QI	Angle θ Falls in QII	Angle θ Falls in QIII	Angle θ Falls in QIV
			
Formula: _____	Formula: _____	Formula: _____	Formula: _____

Example 3: Find the reference angle θ' given angle θ. Make sure angle θ is between 0° and 360°

angle θ	Quadrant θ Lies	Work to find θ'	Reference angle
a. 120°			
b. 53°			
c. 948°			
d. – 765°			