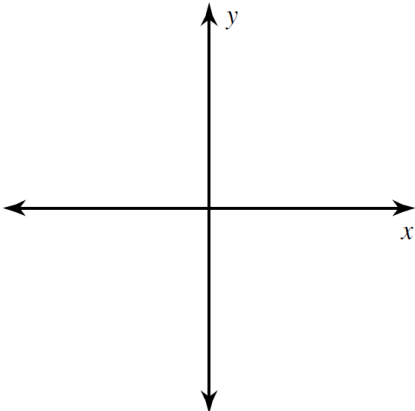
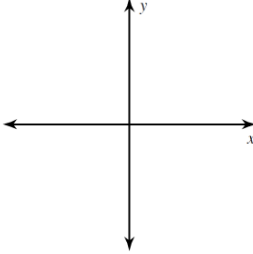
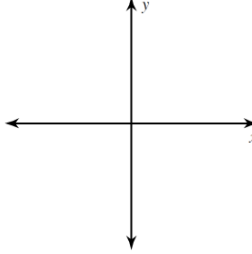
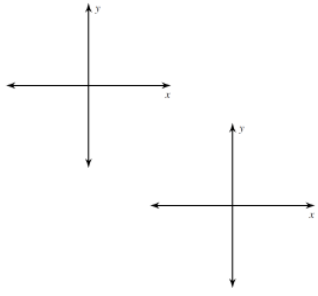
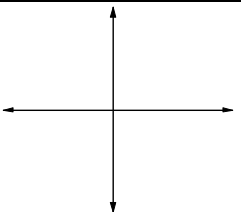
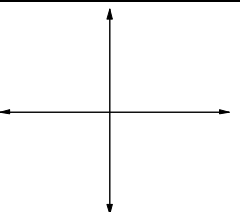
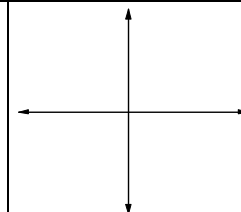
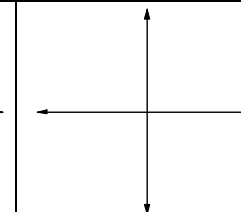
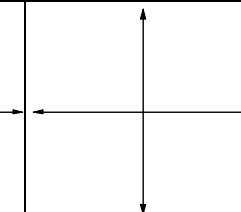
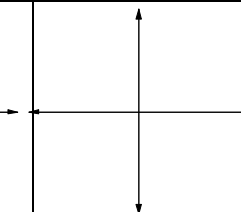


Angles, UC, Trig Graphs/Equations – Angles and Angle Measure

General Angle in Standard Position	Various Types of Common Angles		
– <u>angle</u> → _____	Positive Angles	Negative Angles	Quadrant Angles
	 ▪ rotation is _____ ▪ arrow is _____	 ▪ rotation is _____ ▪ arrow is _____	 ▪ Terminal side falls on a.) x-axis like _____ b.) y-axis like _____

Angle Measurement # 1 – Degrees (with $^{\circ}$)	Angle Measurement # 2 – Radians (with π)
To convert from degrees ($^{\circ}$) to radians (π) → _____ Ex: Convert given degree measure to radians: a.) $45^{\circ} \rightarrow$ _____ b.) $300^{\circ} \rightarrow$ _____	To convert from radians (π) to degrees ($^{\circ}$) → _____ Ex: Convert given radian measure to degrees: a.) $\frac{\pi}{3} \rightarrow$ _____ b.) $\frac{5\pi}{6} \rightarrow$ _____

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

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

– **coterminal angles** → 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 _____ (I call these “swirlies”)

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

i.) $\theta = 60^{\circ} \rightarrow$ positive coterminal angle = _____ negative coterminal angle = _____	ii.) $\theta = \frac{7\pi}{6} \rightarrow$ positive coterminal angle = _____ negative coterminal angle = _____
---	--

Example 2b: Find and draw an angle between 0° and 360° that is coterminal with the given angle.

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.)
-----	------	-------	------	-----

Application Problems Involving Angle Measure

Arc Length $\rightarrow s = r \cdot \theta$ (in radians)		Sector Area $\rightarrow A = \frac{1}{2} \cdot r^2 \cdot \theta$ (in radians)	
	Ex 4a: Find the arc length 		Ex 4b: Find the sector area

Example 3: Using the appropriate formula(s), find what is asked. Round to tenth place.

a.) What is the distance between the tips of the minute and the hour hand of a clock at 10:08 when the minute hand is 6 in long and the hour hand is 4 in long. 	b.) What is the distance between point A and the moon given the radius of the earth 3,960 miles?
c.) What is the area swept by the rear windshield wiper? 	d.) What is the area of the shaded region?