

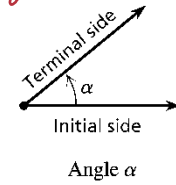
8.1

Date: 2/21/24

Objective: I can draw and find angles, coterminal angles, and reference angles.

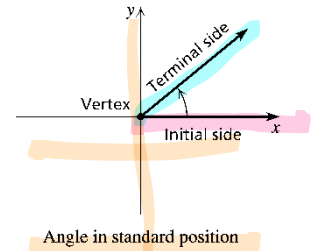
Vocabulary:

Angle:



Initial side:

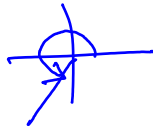
Terminal side:



Standard position angle:

If the terminal side of an angle rotates counterclockwise, it is a positive angle.

Example:



If the terminal side of an angle rotates clockwise, it is a negative angle.

Example:



How many degrees is in one rotation or revolution (a complete circle)?

360°

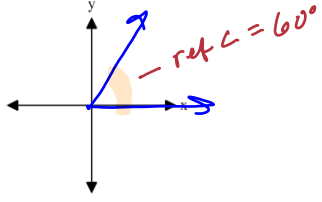
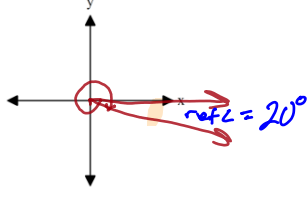
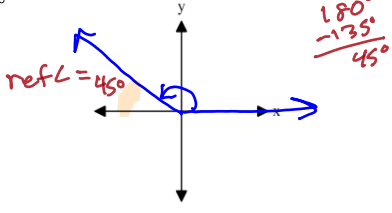
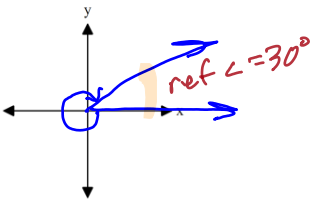
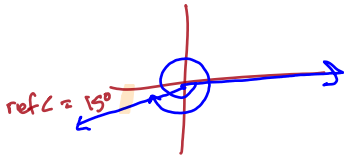
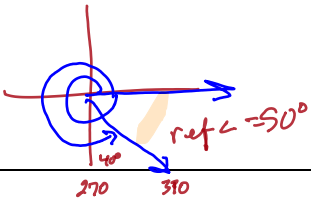
Draw the following angles.

- ① initial side
- ② terminal side
- ③ direction

1. 60°		2. -380°	
3. 135°		4. -330°	
5. -525°		6. 670°	

Reference angle: acute positive angle touching x-axis

Determine the reference angle and draw it.

<p>1. 60°</p> 	<p>2. -380°</p> 
<p>3. 135°</p> 	<p>4. -330°</p> 
<p>5. -525°</p> 	<p>6. 670°</p> 

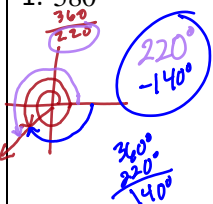
Coterminal angles:

To find coterminal angles:

For positive angles, usually you add 360° .

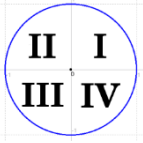

For negative angles, usually you subtract 360° .

Find a positive and negative coterminal angle.

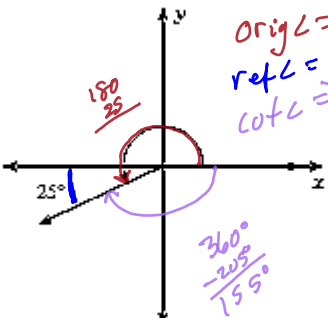
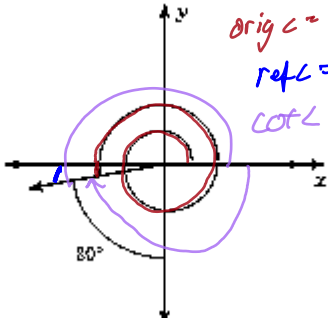
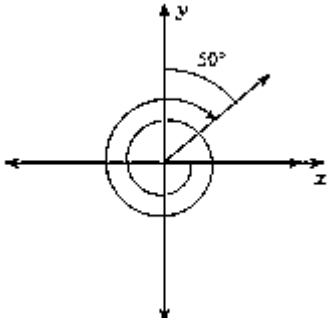
<p>1. 580°</p>  <p> $580^\circ + 360^\circ = 940^\circ$ $580^\circ - 360^\circ = 220^\circ$ $220^\circ - 360^\circ = -140^\circ$ </p>	<p>2. $-92^\circ + 360^\circ = 268^\circ$ $-92^\circ - 360^\circ = -452^\circ$</p> <p>OR</p> <p> $-92^\circ \pm 360^\circ$ $268^\circ, -452^\circ$ </p>	<p>3. 405°</p>
<p>4. -120°</p>	<p>5. -225°</p>	<p>6. 464°</p>

Knowing what quadrant the terminal side of an angle stops in will help you later in this unit with sine, cosine, and tangent.

Determine which quadrant each of the following angles terminate.

	1. 480° 	2. 405°
	3. -420°	4. -256°

Find the measure of each angle. Find the reference angle. Last, find a coterminal angle.

<p>1.</p> 	<p>2.</p> 
<p>3.</p> 	<p>4.</p> 