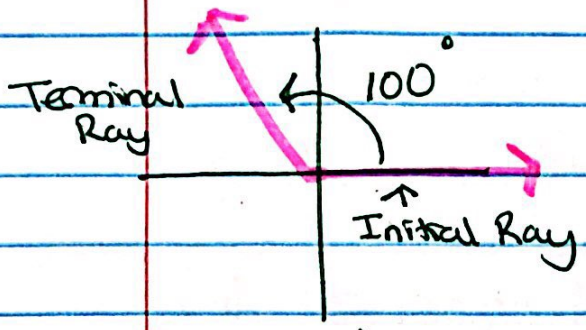
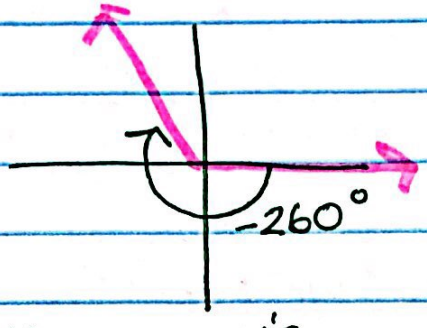
Trig Terminology

- Standard Position - The vertex is at the origin
  - The initial ray is on the positive x-axis.

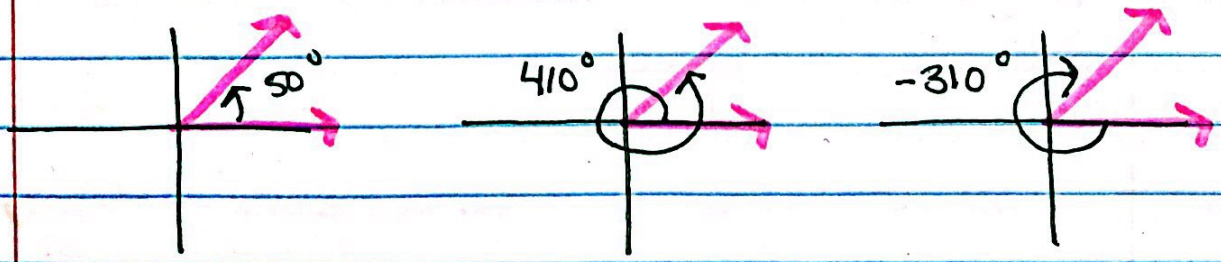


Positive $\angle$'s open counter-clockwise



Negative $\angle$'s open clockwise

- Coterminal $\angle$'s - 2 angles in standard position whose terminal rays are in the same place.



$50 + 360 = 410°$ $50° - 360° = -310°$

To find coterminal angles, add/subtract $360°$ or 2π.

Find 2 $\measuredangle$'s one positive and one negative that are coterminal with each of the following angles.

1) 375°

pos: $375 - 360 = 15^\circ$

neg: $375 - 360 - 360 = -345^\circ$

2) $\pi/3$

pos: $\frac{\pi}{3} + \frac{6\pi}{3} = \frac{7\pi}{3}$

neg: $\frac{\pi}{3} - \frac{6\pi}{3} = -\frac{5\pi}{3}$

Find an angle between 0° and 360° or 0 and 2π that is coterminal to the following angles.

1) 1246°

-360

886

-360

526

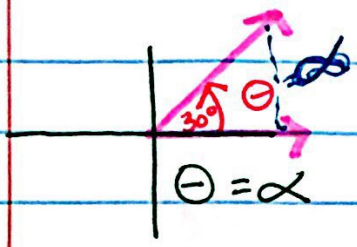
-360

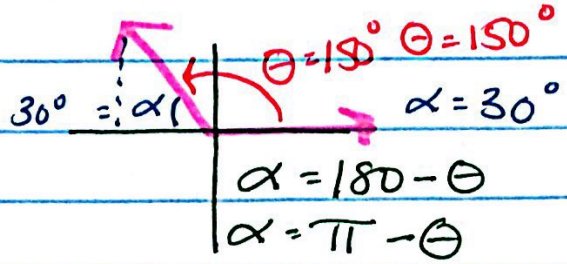
166°

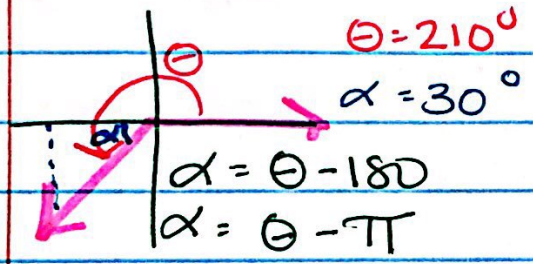
2) $\frac{21\pi}{5} - \frac{10\pi}{5} = \frac{11\pi}{5}$

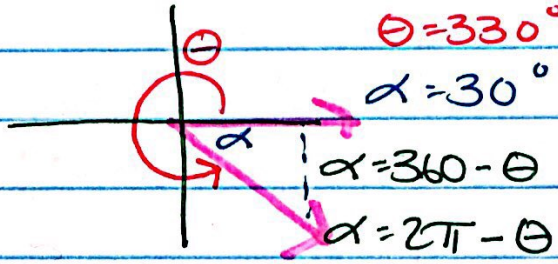
$\frac{11\pi}{5} - \frac{10\pi}{5} = \frac{\pi}{5}$

Reference Angle - The positive acute angle formed between the x-axis and the terminal ray.









Degrees ↔ Radians

$360° = \pi$

360 deg = 2π rad

180 deg = π rad

$$\frac{30 \text{ deg}}{1} \left| \frac{\pi \text{ rad}}{180 \text{ deg}} \right. = \frac{30\pi}{180} = \frac{\pi}{6}$$

$$\frac{2\pi \text{ rad}}{3} \left| \frac{180 \text{ deg}}{\pi \text{ rad}} \right. = 120°$$

60