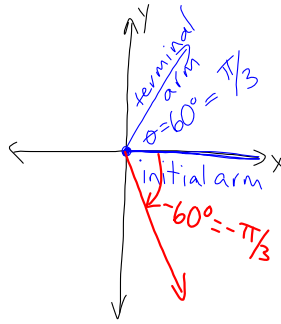


4.1 cont. Coterminal Angles

Angles in
Standard
Position



+ angles
are CCW
(up from the
positive x-axis)

- angles
are CW
(down from the
positive x-axis)

Angles that share a
terminal arm are
called coterminal angles.

ex) List at least 4 angles that are
coterminal with 60° .

$$60^\circ + 360^\circ = 420^\circ \quad 60^\circ - 360^\circ = -300^\circ$$

$$60^\circ + 360^\circ(2) = 780^\circ \quad 60^\circ - 360^\circ(2) = -660^\circ$$

$$60^\circ \pm 360^\circ n, n \in \mathbb{N}$$

$$60^\circ + 360^\circ n, n \in \mathbb{Z}$$

ex) List 4 angles coterminal with $\pi/3$.

$$\pi/3 + 2\pi \rightarrow \frac{\pi}{3} + \frac{6\pi}{3} = \frac{7\pi}{3} \quad \frac{\pi}{3} - 2\pi \rightarrow \frac{\pi}{3} - \frac{6\pi}{3} = \frac{-5\pi}{3}$$

$$\pi/3 + 2\pi(2) \rightarrow \frac{\pi}{3} + \frac{12\pi}{3} = \frac{13\pi}{3} \quad \frac{\pi}{3} - 2\pi(2) \rightarrow \frac{\pi}{3} - \frac{12\pi}{3} = \frac{-11\pi}{3}$$

$$\pi/3 + 2\pi n, n \in \mathbb{Z}$$

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