

Angles in Standard Position & Coterminal Angles

Name: Key Period: _____

State the quadrant in which the terminal side of each angle lies.

1. -60°

QIV

2. 197°

QIII

3. $\frac{11\pi}{6}$

QIV

4. $\frac{-5\pi}{4}$

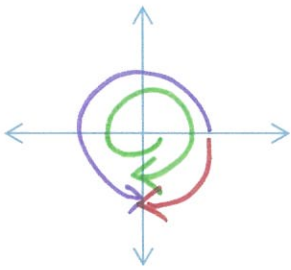
QIII

5. $\frac{5\pi}{4}$

QIII

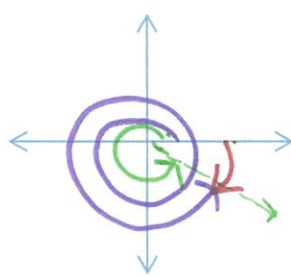
Draw the angle in standard position. Find (and draw) one positive coterminal angle and one negative coterminal angle for the given angle.

6. -450°



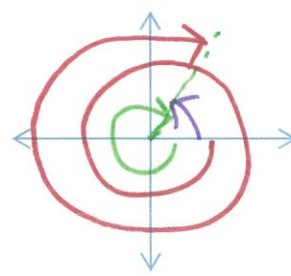
Pos. Coterminal: $\frac{270^\circ}{-450 + 360 + 360}$
 Neg. Coterminal: $\frac{-90^\circ}{-450 + 360 = -90}$

7. 320°



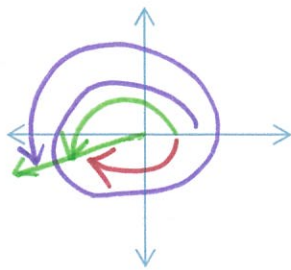
Pos. Coterminal: $\frac{680^\circ}{320 + 360}$
 Neg. Coterminal: $\frac{-40}{320 - 360}$

8. -310°



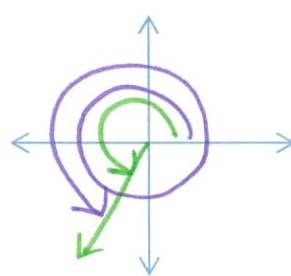
Pos. Coterminal: $\frac{50^\circ}{-310 + 360}$
 Neg. Coterminal: $\frac{-670^\circ}{-310 - 360}$

9. $\frac{7\pi}{6}$



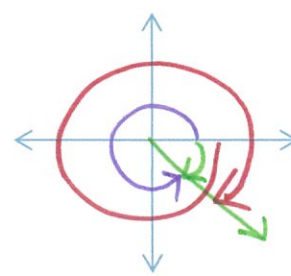
Pos. Coterminal: $\frac{19\pi/6}{7\pi/6 + 12\pi/6 = 19\pi/6}$
 Neg. Coterminal: $\frac{-5\pi/6}{\frac{7\pi}{6} - \frac{12\pi}{6}}$

10. $\frac{4\pi}{3}$



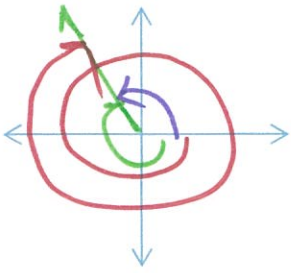
Pos. Coterminal: $\frac{10\pi/3}{\frac{4\pi}{3} + 6\pi/3 = 10\pi/3}$
 Neg. Coterminal: $\frac{-2\pi/3}{\frac{4\pi}{3} - \frac{6\pi}{3} = -\frac{2\pi}{3}}$

11. $\frac{-\pi}{4}$



Pos. Coterminal: $\frac{7\pi/4}{-\pi/4 + 8\pi/4 = 7\pi/4}$
 Neg. Coterminal: $\frac{-9\pi/4}{-\pi/4 - 8\pi/4 = -\frac{9\pi}{4}}$

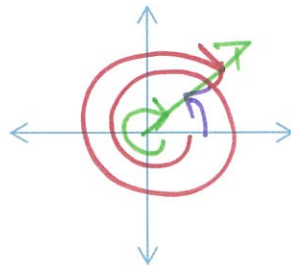
12. -240°



Pos. Coterminal: $\frac{120^\circ}{-240 + 360}$

Neg. Coterminal: $\frac{600^\circ}{-240 - 360}$

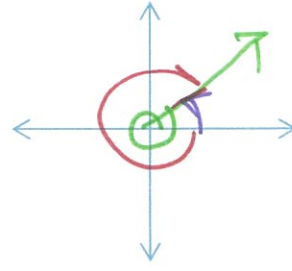
13. $\frac{-7\pi}{4}$



Pos. Coterminal: $\frac{\pi/4}{-7\pi + 8\pi}$

Neg. Coterminal: $\frac{-15\pi/4}{-7\pi/4 - 8\pi/4}$

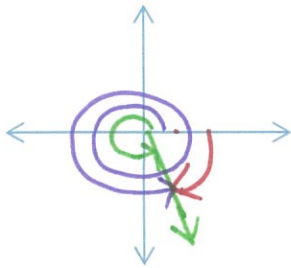
14. $\frac{13\pi}{6}$



Pos. Coterminal: $\frac{\pi/6}{13\pi/6 - 12\pi/6}$

Neg. Coterminal: $\frac{-11\pi/6}{13\pi/6 - 24\pi/6}$

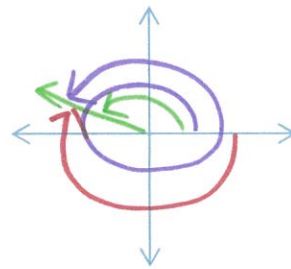
15. 305°



Pos. Coterminal: $\frac{66}{305 + 360}$

Neg. Coterminal: $\frac{-550}{305 - 360}$

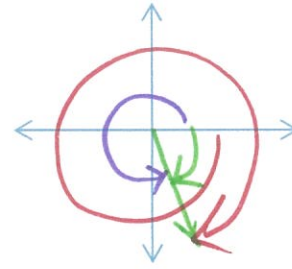
16. $\frac{4\pi}{5}$



Pos. Coterminal: $\frac{14\pi/5}{4\pi/5 + 10\pi/5}$

Neg. Coterminal: $\frac{-6\pi/5}{4\pi/5 - 10\pi/5}$

17. $\frac{-2\pi}{5}$



Pos. Coterminal: $\frac{8\pi/5}{-2\pi/5 + 10\pi/5}$

Neg. Coterminal: $\frac{-12\pi/5}{-2\pi/5 - 10\pi/5}$