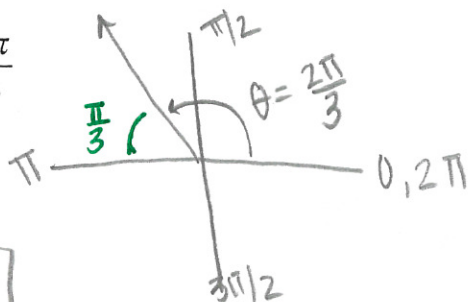


Problem Set 3.4

Key

1 - 10] Sketch the given angle. Then give three coterminal angles (one must be negative) and the reference angle.

1. $\frac{2\pi}{3}$

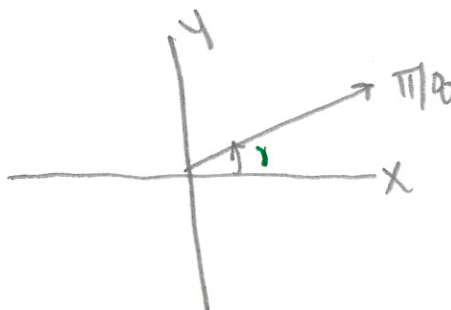


$2\pi = \frac{6\pi}{3}$

Coterminal Angles: $-\frac{4\pi}{3}, \frac{8\pi}{3}, \frac{14\pi}{3}$

Reference Angle: $\frac{\pi}{3}$

2. $\frac{\pi}{8}$

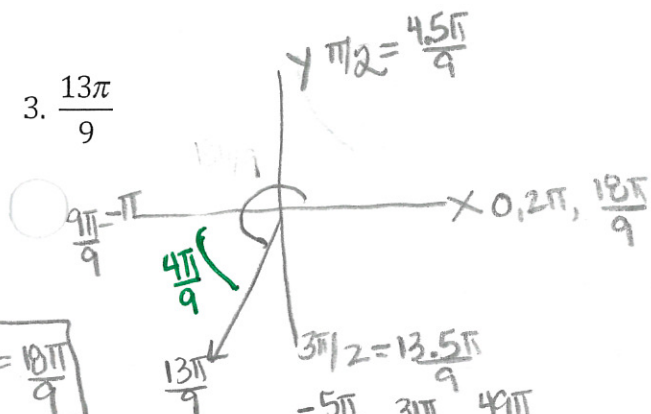


$2\pi = \frac{16\pi}{8}$

Coterminal Angles: $-\frac{15\pi}{8}, \frac{17\pi}{8}, \frac{33\pi}{8}$

Reference Angle: $\frac{\pi}{8}$

3. $\frac{13\pi}{9}$

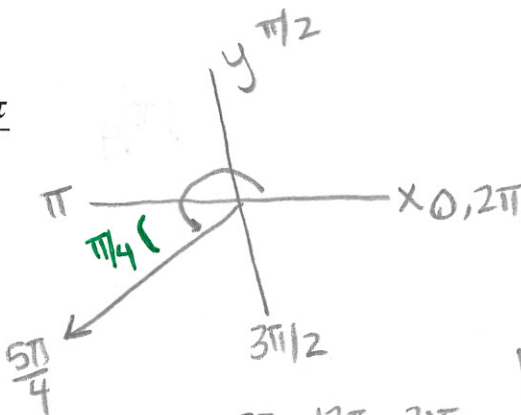


$2\pi = \frac{18\pi}{9}$

Coterminal Angles: $-\frac{5\pi}{9}, \frac{3\pi}{9}, \frac{4\pi}{9}$

Reference Angle: $\frac{4\pi}{9}$

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

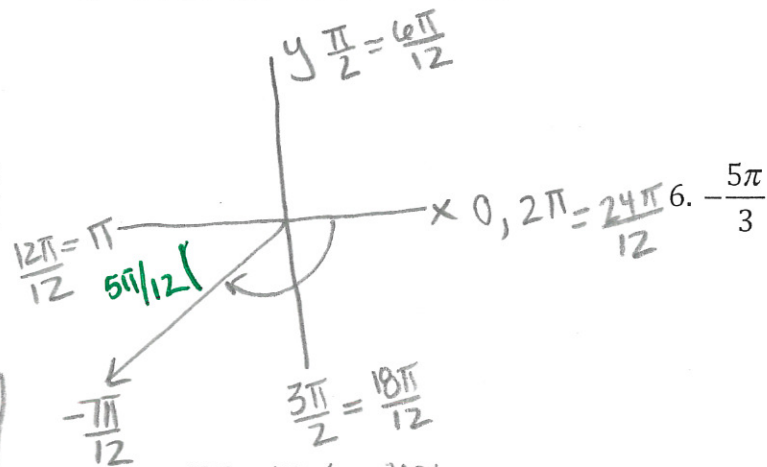


$2\pi = \frac{8\pi}{4}$

Coterminal Angles: $-\frac{3\pi}{4}, \frac{13\pi}{4}, \frac{21\pi}{4}$

Reference Angle: $\frac{\pi}{4}$

5. $-\frac{7\pi}{12}$

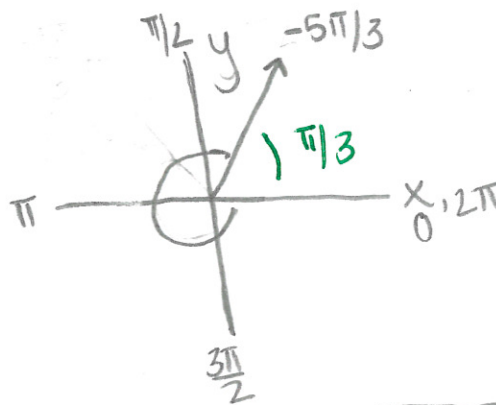


$2\pi = \frac{24\pi}{12}$

Coterminal Angles: $\frac{17\pi}{12}, \frac{41\pi}{12}, -\frac{31\pi}{12}$

Reference Angle: $\frac{5\pi}{12}$

6. $-\frac{5\pi}{3}$

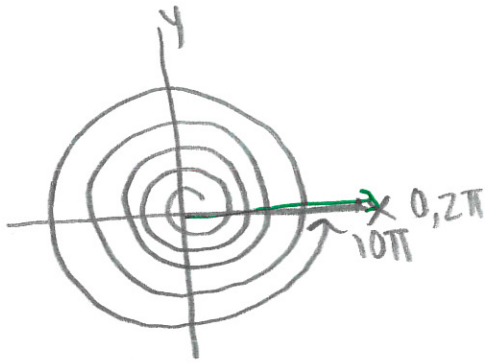


$2\pi = \frac{6\pi}{3}$

Coterminal Angles: $-\frac{11\pi}{3}, \frac{\pi}{3}, \frac{7\pi}{3}$

Reference Angle: $\frac{\pi}{3}$

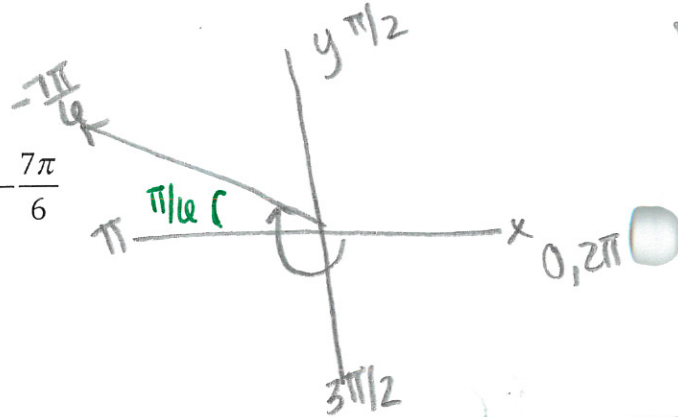
7. 10π



Coterminal Angles: $8\pi, 6\pi, 4\pi, 2\pi, 0, -2\pi$

Reference Angle: 0

8. $-\frac{7\pi}{6}$

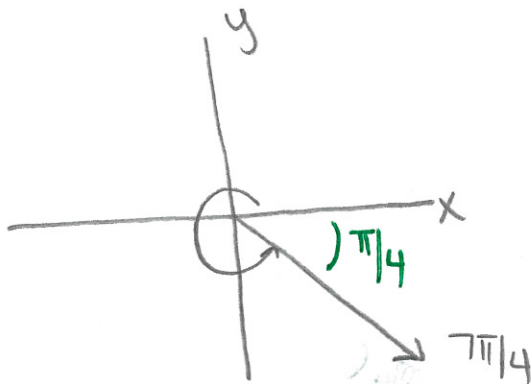


Coterminal Angles: $-\frac{19\pi}{6}, \frac{5\pi}{6}, \frac{17\pi}{6}$

Reference Angle: $\frac{\pi}{6}$

$2\pi = \frac{12\pi}{6}$

9. $\frac{7\pi}{4}$

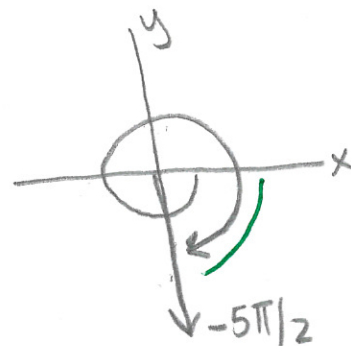


Coterminal Angles: $-\frac{\pi}{4}, \frac{15\pi}{4}, \frac{23\pi}{4}$

Reference Angle: $\frac{\pi}{4}$

$2\pi = \frac{8\pi}{4}$

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



Coterminal Angles: $-\frac{\pi}{2}, \frac{3\pi}{2}, \frac{7\pi}{2}$

Reference Angle: $\frac{\pi}{2}$