

Math 121 – Section 6.3 Solutions

$$11. \sin 405^\circ = \sin(45^\circ + 360^\circ) = \sin 45^\circ = \frac{\sqrt{2}}{2}$$

$$13. \tan 405^\circ = \tan(45^\circ + 360^\circ) = \tan 45^\circ = 1$$

$$15. \csc 450^\circ = \csc(90^\circ + 360^\circ) = \csc 90^\circ = 1$$

$$17. \cot 390^\circ = \cot(30^\circ + 360^\circ) = \cot 30^\circ = \sqrt{3}$$

$$19. \cos \frac{33\pi}{4} = \cos \left(\frac{\pi}{4} + 2\pi \right) = \cos \frac{\pi}{4} = \frac{\sqrt{2}}{2}$$

$$21. \tan(21\pi) = \tan(\pi + 20\pi) = \tan \pi = 0$$

$$23. \sec \frac{17\pi}{4} = \sec \left(\frac{\pi}{4} + 4\pi \right) = \sec \frac{\pi}{4} = \sqrt{2}$$

$$25. \tan \frac{19\pi}{6} = \tan \left(\frac{7\pi}{6} + 2\pi \right) = \tan \frac{7\pi}{6} = \frac{\sqrt{3}}{3}$$

$$27. \sin \theta > 0, \cos \theta < 0 \Rightarrow \theta \text{ lies in Quadrant II}$$

$$29. \sin \theta < 0, \tan \theta < 0 \Rightarrow \theta \text{ lies in Quadrant IV}$$

$$31. \cos \theta > 0, \tan \theta < 0 \Rightarrow \theta \text{ lies in Quadrant IV}$$

$$33. \sec \theta < 0, \sin \theta > 0 \Rightarrow \theta \text{ lies in Quadrant II}$$

$$35. \tan \theta = -\frac{3}{4}, \cot \theta = -\frac{4}{3}, \sec \theta = \frac{5}{4}, \csc \theta = -\frac{5}{3}$$

$$38. \tan \theta = \frac{1}{2}, \cot \theta = 2, \sec \theta = -\frac{5}{2\sqrt{5}}, \csc \theta = -\frac{5}{\sqrt{5}}$$

$$43. \cos \theta = -\frac{5}{13}, \tan \theta = -\frac{12}{5}, \cot \theta = -\frac{5}{12}, \sec \theta = -\frac{13}{5}, \csc \theta = \frac{13}{12}$$

$$50. \cos \theta = -\frac{\sqrt{5}}{3}, \tan \theta = \frac{2}{\sqrt{5}}, \cot \theta = \frac{\sqrt{5}}{2}, \sec \theta = -\frac{3}{\sqrt{5}}, \csc \theta = -\frac{3}{2}$$

$$55. \cos \theta = -\frac{4}{5}, \sin \theta = -\frac{3}{5}, \cot \theta = \frac{4}{3}, \sec \theta = -\frac{5}{4}, \csc \theta = -\frac{5}{3}$$