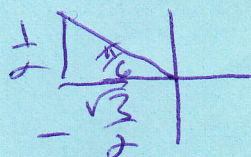(22)

Section 5.4 Exercises
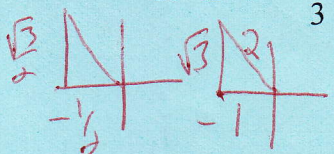
1. If $\theta = \dfrac{\pi}{4}$, find exact values for $\sec(\theta), \csc(\theta), \tan(\theta), \cot(\theta)$.

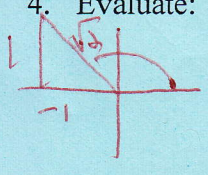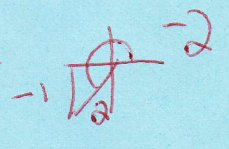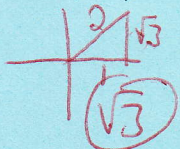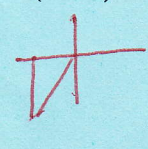$$\sqrt{2}, \quad \sqrt{2}, \quad 1, \quad 1$$

2. If $\theta = \dfrac{5\pi}{6}$, find exact values for $\sec(\theta), \csc(\theta), \tan(\theta), \cot(\theta)$.

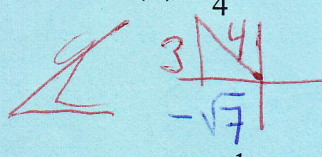$$-\dfrac{2}{\sqrt{3}} \text{ or } \dfrac{-2\sqrt{3}}{3} \qquad 2 \qquad \dfrac{1}{2} \qquad 1$$

3. If $\theta = \dfrac{2\pi}{3}$, find exact values for $\sec(\theta), \csc(\theta), \tan(\theta), \cot(\theta)$.

$$\sec\theta = -2 \qquad \csc\theta = \dfrac{2\sqrt{3}}{3} \qquad \tan\theta = -\sqrt{3} \qquad \cot\theta = -\dfrac{\sqrt{3}}{3}$$
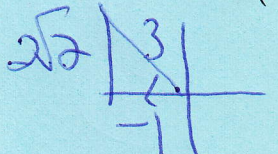
4. Evaluate: a. $\sec(135°)$ b. $\csc(210°)$ c. $\tan(60°)$ d. $\cot(225°)$
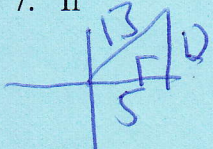
$$-\sqrt{2}, \qquad -2, \qquad \sqrt{3}, \qquad +1$$

5. If $\sin(\theta) = \dfrac{3}{4}$, and θ is in quadrant II, find $\cos(\theta), \sec(\theta), \csc(\theta), \tan(\theta), \cot(\theta)$.

$$-\dfrac{\sqrt{7}}{4} \qquad \dfrac{-4\sqrt{7}}{7} \qquad \dfrac{4}{3} \qquad \dfrac{-3\sqrt{7}}{7} \qquad -\dfrac{\sqrt{7}}{3}$$

6. If $\cos(\theta) = -\dfrac{1}{3}$, and θ is in quadrant III, find $\sin(\theta), \sec(\theta), \csc(\theta), \tan(\theta), \cot(\theta)$.

$$\dfrac{2\sqrt{2}}{3} \qquad -3 \qquad \dfrac{3\sqrt{2}}{4} \qquad -2\sqrt{2} \qquad \dfrac{-1}{2\sqrt{2}} \qquad -\dfrac{\sqrt{2}}{4}$$

7. If $\tan(\theta) = \dfrac{12}{5}$, and $0 \le \theta < \dfrac{\pi}{2}$, find $\sin(\theta), \cos(\theta), \sec(\theta), \csc(\theta), \cot(\theta)$.

$$\dfrac{12}{13} \qquad \dfrac{5}{13} \qquad \dfrac{13}{5} \qquad \dfrac{13}{12} \qquad \dfrac{5}{12}$$

8. Use a calculator to find sine, cosine, and tangent of the following values:

   a. 0.15   b. 4   c. 70°   d. 283°

$$\text{Sin} \quad .1494 \qquad -0.7568 \qquad .9397 \qquad -0.9744$$
$$\text{cos} \quad .9888 \qquad -0.6536 \qquad .3420 \qquad .2250$$
$$\text{Tan} \quad .1511 \qquad 1.1578 \qquad 2.7475 \qquad -4.3315$$