

p251: 2-6, 9-16, 92-96

2. (-6, 6)

$$r = \sqrt{(-6)^2 + (6)^2}$$

$$= \sqrt{2(36)}$$

$$= 6\sqrt{2}$$

$$\sin \theta = \frac{6}{6\sqrt{2}} = \frac{\sqrt{2}}{2}$$

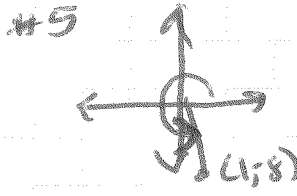
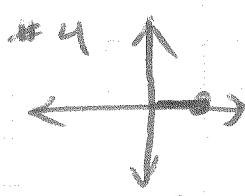
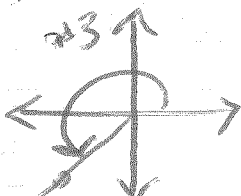
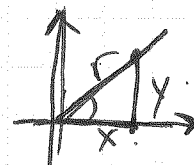
$$\cos \theta = \frac{-6}{6\sqrt{2}} = -\frac{\sqrt{2}}{2}$$

$$\tan \theta = \frac{-6}{6} = -1$$

$$\csc \theta = \sqrt{2}$$

$$\sec \theta = -\sqrt{2}$$

$$\cot \theta = -1$$



3. (-4, -3)

$$r = \sqrt{(-4)^2 + (-3)^2}$$

$$= \sqrt{16 + 9}$$

$$= \sqrt{25} = 5$$

$$\sin \theta = -\frac{3}{5}$$

$$\cos \theta = -\frac{4}{5}$$

$$\tan \theta = \frac{3}{4}$$

$$\csc \theta = -\frac{5}{3}$$

$$\sec \theta = -\frac{5}{4}$$

$$\cot \theta = \frac{4}{3}$$

4. (2, 0) $r=2$

$$\sin \theta = 0$$

$$\cos \theta = 1$$

$$\tan \theta = 0$$

$$\csc \theta = \text{und.}$$

$$\sec \theta = 1$$

$$\cot \theta = \text{und.}$$

5. (1, -8)

$$r = \sqrt{1^2 + (-8)^2}$$

$$r = \sqrt{65}$$

5-13

~~$$\sin \theta = -\frac{8}{\sqrt{65}}$$~~

$$\sin \theta = -\frac{8\sqrt{65}}{65}$$

$$\cos \theta = \frac{\sqrt{65}}{65}$$

$$\tan \theta = -8$$

$$\csc \theta = -\frac{\sqrt{65}}{8}$$

$$\sec \theta = \sqrt{65}$$

$$\cot \theta = -\frac{1}{8}$$

6. (5, -3)

$$r = \sqrt{5^2 + (-3)^2}$$

$$= \sqrt{25 + 9}$$

$$= \sqrt{34}$$

$$\sin \theta = \frac{-3}{\sqrt{34}} \quad \csc \theta = -\frac{\sqrt{34}}{3}$$

$$\cos \theta = \frac{5}{\sqrt{34}} \quad \sec \theta = \frac{\sqrt{34}}{5}$$

$$\tan \theta = \frac{-3}{5} \quad \cot \theta = -\frac{5}{3}$$

9. $\sin \frac{\pi}{2} = 1$

10. $\tan 2\pi = 0$

11. $\cot(-180^\circ) = \text{und.}$

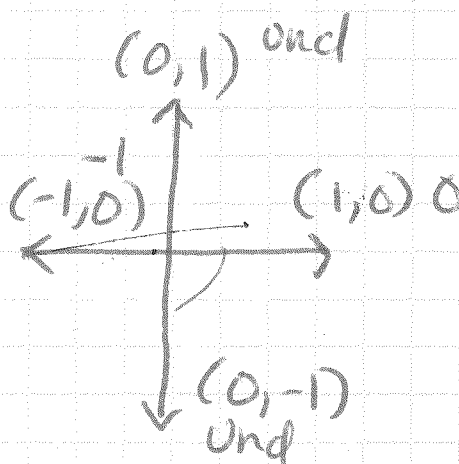
12. $\csc 270^\circ = -1$

13. $\cos(-270^\circ) = 0$

14. $\sec 180^\circ = -1$

15. $\tan \pi = 0$

16. $\sec(-\frac{\pi}{2}) = \text{und}$



94. $\log_2 32$ $2^x = 2^5$
 $x = 5$

92. $\log_8 64$ $8^x = 64$
 $8^x = 8^2$
 $x = 2$

95. $\log_4 128$ $4^x = 4$ $x = \frac{7}{2}$
 $2^{2x} = 128$

93. $\log_{125} 5$ $125^x = 5$
 $x = \frac{1}{3}$

96. $\pm 1, \pm 2; 1$

$$\begin{array}{r|rrrr} +1 & 1 & -4 & 2 & \\ & & 1 & -3 & -2 \\ \hline & 1 & -3 & -2 & 0 \end{array}$$

$$x^2 - 3x - 2$$

$$1+3-2 \quad | \quad 4+6-2 \quad | \quad 4-6-2$$