

P. 227 # 1-18 odd

$$1. \sin \theta = \frac{8\sqrt{2}}{18} = \frac{4\sqrt{2}}{9}$$

$$\csc \theta = \frac{9}{4\sqrt{2}} \cdot \frac{\sqrt{2}}{\sqrt{2}} = \frac{9\sqrt{2}}{8}$$

$$\cos \theta = \frac{14}{18} = \frac{7}{9}$$

$$\sec \theta = \frac{9}{7}$$

$$\tan \theta = \frac{8\sqrt{2}}{14} = \frac{4\sqrt{2}}{7}$$

$$\cot \theta = \frac{7}{4\sqrt{2}} \cdot \frac{\sqrt{2}}{\sqrt{2}} = \frac{7\sqrt{2}}{8}$$

$$3. \sin \theta = \frac{9}{\sqrt{97}} = \frac{9\sqrt{97}}{97}$$

$$\csc \theta = \frac{\sqrt{97}}{9}$$

$$\cos \theta = \frac{4}{\sqrt{97}} = \frac{4\sqrt{97}}{97}$$

$$\sec \theta = \frac{\sqrt{97}}{4}$$

$$\tan \theta = \frac{9}{4}$$

$$\cot \theta = \frac{4}{9}$$

$$5. \sin \theta = \frac{\sqrt{165}}{29}$$

$$\csc \theta = \frac{29}{\sqrt{165}} = \frac{29\sqrt{165}}{165}$$

$$\cos \theta = \frac{26}{29}$$

$$\sec \theta = \frac{29}{26}$$

$$\tan \theta = \frac{\sqrt{165}}{26}$$

$$\cot \theta = \frac{26}{\sqrt{165}} = \frac{26\sqrt{165}}{165}$$

$$7. a^2 + b^2 = 10^2$$

$$\sin \theta = \frac{6}{10} = \frac{3}{5}$$

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

$$a^2 = 100 - 36$$

$$\cos \theta = \frac{8}{10} = \frac{4}{5}$$

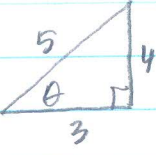
$$\sec \theta = \frac{5}{4}$$

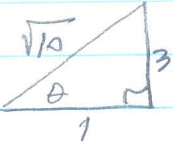
$$a^2 = 64$$

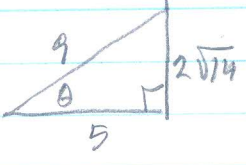
$$a = 8$$

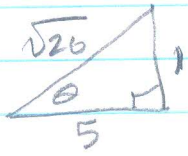
$$\tan \theta = \frac{6}{8} = \frac{3}{4}$$

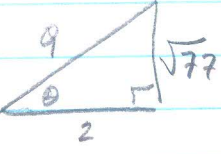
$$\cot \theta = \frac{4}{3}$$

9.  $a^2 = 5^2 - 4^2$ $\sin \theta = \frac{4}{5}$ $\csc \theta = \frac{5}{4}$
 $a^2 = 25 - 16$ $\cos \theta = \frac{3}{5}$ $\sec \theta = \frac{5}{3}$
 $a^2 = 9$ $\tan \theta = \frac{4}{3}$ $\cot \theta = \frac{3}{4}$

11.  $c^2 = 4^2 + 3^2$ $\sin \theta = \frac{3}{\sqrt{10}} = \frac{3\sqrt{10}}{10}$ $\csc \theta = \frac{\sqrt{10}}{3}$
 $c = \sqrt{10}$ $\cos \theta = \frac{1}{\sqrt{10}} = \frac{\sqrt{10}}{10}$ $\sec \theta = \sqrt{10}$
 $\tan \theta = 3$ $\cot \theta = \frac{1}{3}$

13.  $b^2 = 9^2 - 5^2$ $\sin \theta = \frac{2\sqrt{4}}{9}$ $\csc \theta = \frac{9}{2\sqrt{4}} = \frac{9\sqrt{4}}{28}$
 $b^2 = 81 - 25$ $\cos \theta = \frac{5}{9}$ $\sec \theta = \frac{9}{5}$
 $b = \sqrt{56} = 2\sqrt{14}$ $\tan \theta = \frac{2\sqrt{4}}{5}$ $\cot \theta = \frac{5}{2\sqrt{4}} = \frac{5\sqrt{4}}{28}$

15.  $c^2 = 1^2 + 5^2$ $\sin \theta = \frac{1}{\sqrt{26}} = \frac{\sqrt{26}}{26}$ $\csc \theta = \sqrt{26}$
 $c = \sqrt{26}$ $\cos \theta = \frac{5}{\sqrt{26}} = \frac{5\sqrt{26}}{26}$ $\sec \theta = \frac{\sqrt{26}}{5}$
 $\tan \theta = \frac{1}{5}$ $\cot \theta = 5$

17.  $b^2 = 9^2 - 2^2$ $\sin \theta = \frac{\sqrt{77}}{9}$ $\csc \theta = \frac{9\sqrt{77}}{77}$
 $b^2 = 81 - 4$ $\cos \theta = \frac{2}{9}$ $\sec \theta = \frac{9}{2}$
 $b = \sqrt{77}$ $\tan \theta = \frac{\sqrt{77}}{2}$ $\cot \theta = \frac{2\sqrt{77}}{77}$