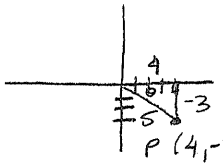
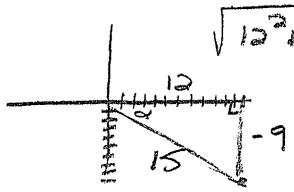
Trig Sec 2-3 p. 77 (3-51)m3, 77, 91, 92

(3)



$\sin\theta = \frac{-3}{5}$ $\cos\theta = \frac{4}{5}$ $\tan\theta = \frac{-3}{4}$

$\csc\theta = \frac{5}{-3}$ $\sec\theta = \frac{5}{4}$ $\cot\theta = \frac{4}{-3}$

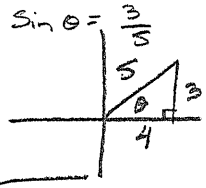


$\sqrt{12^2+(-9)^2} = 15$

$\sin\theta = \frac{-9}{15} = \frac{-3}{5}$ $\cos\theta = \frac{12}{15} = \frac{4}{5}$ $\tan\theta = \frac{-9}{12} = \frac{-3}{4}$

$\csc\theta = \frac{5}{-3}$ $\sec\theta = \frac{5}{4}$ $\cot\theta = \frac{4}{-3}$

(6) $\sin\theta = \frac{3}{5}$

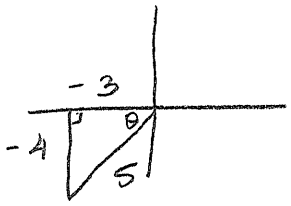


$\sqrt{5^2-3^2} = 4$

$\sin\theta = \frac{3}{5}$ $\cos\theta = \frac{4}{5}$ $\tan\theta = \frac{3}{4}$

$\csc\theta = \frac{5}{3}$ $\sec\theta = \frac{5}{4}$ $\cot\theta = \frac{4}{3}$

(9) $\csc\theta = \frac{-5}{4}$



$\sin\theta = -\frac{4}{5}$ $\cos\theta = \frac{-3}{5}$ $\tan\theta = \frac{4}{3}$

$\csc\theta = -\frac{5}{4}$ $\sec\theta = \frac{5}{-3}$ $\cot\theta = \frac{3}{4}$

(12) $\tan\theta = \frac{1}{\cot\theta}$ $\cot\theta = \frac{1}{\tan\theta}$ $\neq 0$, $\cot\theta$ and $\tan\theta$ will always have the same sign.

(15) $\cos(3 \text{ rad}) = \boxed{-0.9900}$

(18) $\sec 285^\circ = \frac{1}{\cos 285^\circ} = \boxed{4.445}$

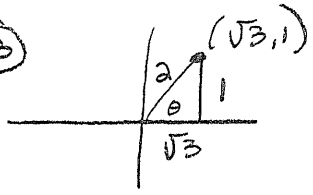
(21) $\sin 13 = \boxed{0.4202}$

(24) $\tan 1 = \boxed{1.557}$

(27) $\sin 428^\circ = \boxed{0.9272}$

(30) $\csc(-72) = \frac{1}{\sin(-72)} = \boxed{-3.940}$

(33)

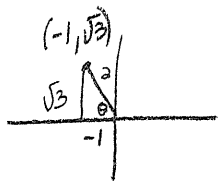


$\sqrt{(\sqrt{3})^2+(1)^2} = 2$

$\sin\theta = \frac{1}{2}$ $\cos\theta = \frac{\sqrt{3}}{2}$ $\tan\theta = \frac{1}{\sqrt{3}} = \frac{\sqrt{3}}{3}$

$\csc\theta = \frac{2}{1}$ $\sec\theta = \frac{2}{\sqrt{3}} = \frac{2\sqrt{3}}{2}$ $\cot\theta = \sqrt{3}$

(36)



$\sin\theta = \frac{\sqrt{3}}{2}$ $\cos\theta = \frac{-1}{2}$ $\tan\theta = \frac{\sqrt{3}}{-1}$

$\csc\theta = \frac{2}{\sqrt{3}} = \frac{2\sqrt{3}}{3}$ $\sec\theta = -2$ $\cot\theta = \frac{-1}{\sqrt{3}} = \frac{-\sqrt{3}}{3}$

Trig Sec 2-3 Cont.

(39) $\tan\theta > 0$ (+)

S	A
T	C

I, III

(43) $\csc\theta > 0$ (+)

I, II

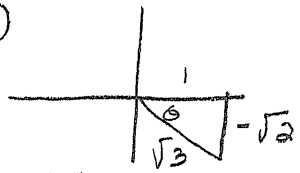
(45) $\cot\theta < 0$ (−)

II, IV

(48) $\sec\theta < 0$ (−)

II, III

(51) $\sec\theta = \sqrt{3}$ (+); $\sin\theta < 0$ (−)



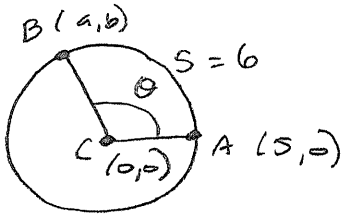
$\sqrt{(\sqrt{3})^2 - (1)^2} = \sqrt{2}$

$\sin\theta = \frac{-\sqrt{2}}{\sqrt{3}}$ $\quad \csc\theta = \frac{\sqrt{3}}{-\sqrt{2}}$

$\cos\theta = \frac{1}{\sqrt{3}}$ $\quad \sec\theta = \sqrt{3}$

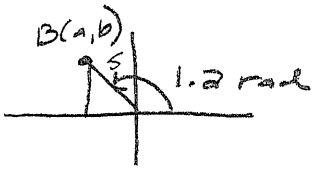
$\tan\theta = -\sqrt{2}$ $\quad \cot\theta = \frac{1}{-\sqrt{2}}$

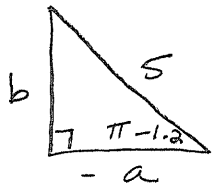
(77)



a) $\theta = \frac{s}{r} = \frac{6}{5} =$ 1.2 rad

b)





$5(\sin(\pi - 1.2)) = \left(\frac{b}{5}\right)5$ $\quad 5(\cos(\pi - 1.2)) = \left(\frac{-a}{5}\right)5$

B(a,b)
B(1.81, 4.66)

$b = 4.66$

$-a = -1.81$

$a = 1.81$

(91) $I = 35\sin(48\pi(0.13) - 12\pi)$

$I =$ 24 amps

(92) $I = 35\sin(48\pi(0.310) - 12\pi)$

$I =$ 12.9 amps