

pg 365 #29-36

(29)

$$\sin \frac{7\pi}{6} = -\frac{1}{2} \quad \csc \frac{7\pi}{6} = -2$$

$$\cos \frac{7\pi}{6} = -\frac{\sqrt{3}}{2} \quad \sec \frac{7\pi}{6} = -\frac{2\sqrt{3}}{3}$$

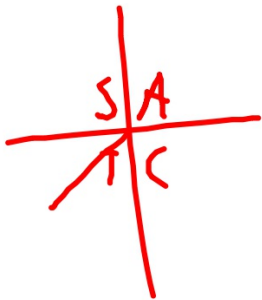
$$\tan \frac{7\pi}{6} = \frac{\sqrt{3}}{3} \quad \cot \frac{7\pi}{6} = \sqrt{3}$$

(30)

$$\sin \frac{\pi}{4} = \frac{\sqrt{2}}{2} \quad \csc \frac{\pi}{4} = \sqrt{2}$$

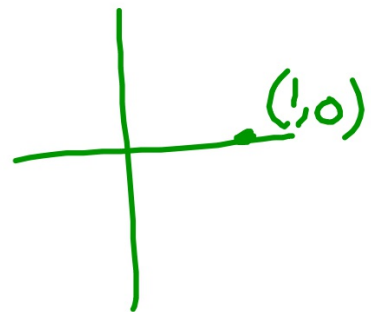
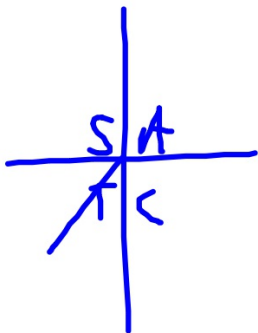
$$\cos \frac{\pi}{4} = \frac{\sqrt{2}}{2} \quad \sec \frac{\pi}{4} = \sqrt{2}$$

$$\tan \frac{\pi}{4} = 1 \quad \cot \frac{\pi}{4} = 1$$



(31) $\frac{4\pi}{3}$ (32)

$$\begin{aligned}
 \sin^{-\frac{2\pi}{3}} &= -\frac{\sqrt{3}}{2} & \csc^{-\frac{2\pi}{3}} &= -\frac{2\sqrt{3}}{3} & \sin 2\pi &= 0 & \csc 2\pi &= \text{undefined} \\
 \cos^{-\frac{2\pi}{3}} &= -\frac{1}{2} & \sec^{-\frac{2\pi}{3}} &= -2 & \cos 2\pi &= 1 & \sec 2\pi &= 1 \\
 \tan^{-\frac{2\pi}{3}} &= \sqrt{3} & \cot^{-\frac{2\pi}{3}} &= \frac{\sqrt{3}}{3} & \tan 2\pi &= 0 & \cot 2\pi &= \text{undefined}
 \end{aligned}$$



$$(33) \sin \frac{11\pi}{4} = \sin \frac{3\pi}{4} = \sin \frac{\pi}{4} = \frac{\sqrt{2}}{2}$$

$$(34) \cos 4\pi = \cos 2\pi = 1$$

$$(35) \sin \left(-\frac{17\pi}{6}\right) = \sin \frac{2\pi}{6} = -\sin \frac{\pi}{6} = -\frac{1}{2}$$

$$(36) \cos \left(-\frac{13\pi}{3}\right) = \cos \frac{5\pi}{3} = \cos \frac{\pi}{3} = \frac{1}{2}$$

pg 366 #55-56

(55)

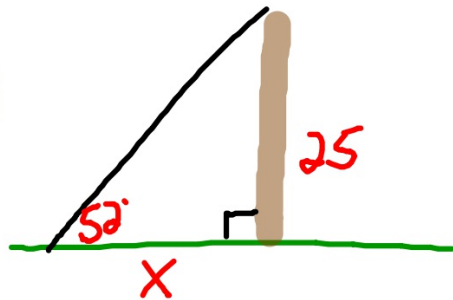


$$\sin 1^{\circ}10' = \frac{y}{3.5}$$

$$y = 3.5 \cdot \sin 1^{\circ}10'$$

$$y = .071 \text{ km}$$

(56)



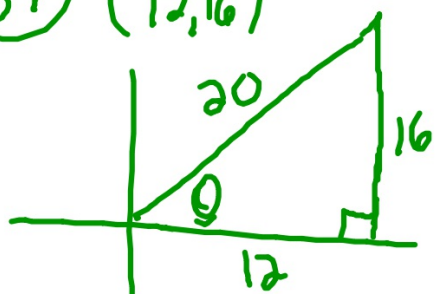
$$\tan 52^{\circ} = \frac{25}{x}$$

$$x = \frac{25}{\tan 52^{\circ}}$$

$$x = 19.532 \text{ ft}$$

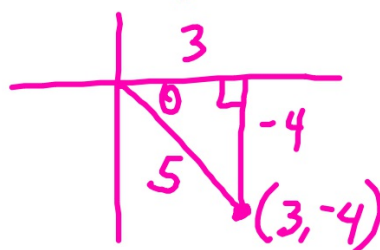
pg 366 # 57, 58, 65, 66

(57) (12, 16)



$$\begin{aligned}\sin \theta &= \frac{4}{5} & \csc \theta &= \frac{5}{4} \\ \cos \theta &= \frac{3}{5} & \sec \theta &= \frac{5}{3} \\ \tan \theta &= \frac{4}{3} & \cot \theta &= \frac{3}{4}\end{aligned}$$

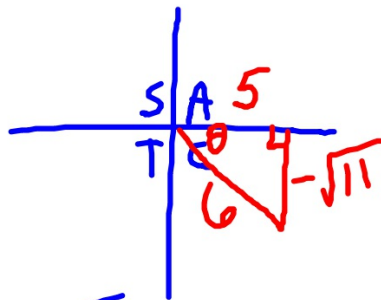
(58) (3, -4)



$$\begin{aligned}\sin \theta &= -\frac{4}{5} & \csc \theta &= -\frac{5}{4} \\ \cos \theta &= \frac{3}{5} & \sec \theta &= \frac{5}{3} \\ \tan \theta &= -\frac{4}{3} & \cot \theta &= -\frac{3}{4}\end{aligned}$$

65

$\tan \angle O$



$$\sin \theta = -\frac{\sqrt{11}}{6}$$

$$\csc \theta = -\frac{6\sqrt{11}}{11}$$

$$\cos \theta = \frac{5}{6}$$

$$\sec \theta = \frac{6}{5}$$

$$\tan \theta = -\frac{\sqrt{11}}{5}$$

$$\cot \theta = -\frac{5\sqrt{11}}{11}$$

$$5^2 + y^2 = 6^2$$

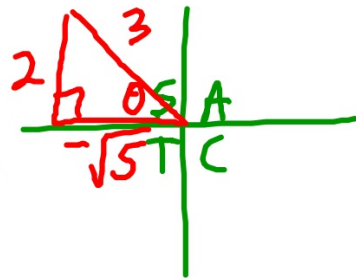
$$y^2 = 11$$

$$y = \sqrt{11}$$

$$\frac{-6}{\sqrt{11}} \quad \frac{-5}{\sqrt{11}}$$

66

$\cos \angle O$



$$\sin \theta = \frac{2}{3}$$

$$\csc \theta = \frac{3}{2}$$

$$\cos \theta = -\frac{\sqrt{5}}{3}$$

$$\sec \theta = -\frac{3\sqrt{5}}{5}$$

$$\tan \theta = -\frac{2\sqrt{5}}{5}$$

$$\cot \theta = -\frac{\sqrt{5}}{2}$$

$$x^2 + 2^2 = 3^2$$

$$x^2 = 5$$

$$x = \sqrt{5}$$

pg 366 #75-82

$$(75) \sin \frac{\pi}{3} = \frac{\sqrt{3}}{2}$$

$$\cos \frac{\pi}{3} = \frac{1}{2}$$

$$\tan \frac{\pi}{3} = \sqrt{3}$$

$$(76) \sin \frac{\pi}{4} = \frac{\sqrt{2}}{2}$$

$$\cos \frac{\pi}{4} = \frac{\sqrt{2}}{2}$$

$$\tan \frac{\pi}{4} = 1$$

$$(77) \sin^{-\frac{7\pi}{3}} = \sin^{\frac{5\pi}{3}} = -\sin \frac{\pi}{3} = -\frac{\sqrt{3}}{2}$$

$$\cos^{-\frac{7\pi}{3}} = \cos \frac{\pi}{3} = \frac{1}{2}$$

$$\tan^{-\frac{7\pi}{3}} = -\tan \frac{\pi}{3} = -\sqrt{3}$$

$$(78) \sin^{-\frac{5\pi}{4}} = \sin^{\frac{3\pi}{4}} = \frac{\sqrt{2}}{2}$$

$$\cos^{-\frac{5\pi}{4}} = -\cos \frac{\pi}{4} = -\frac{\sqrt{2}}{2}$$

$$\tan^{-\frac{5\pi}{4}} = -\tan \frac{\pi}{4} = -1$$

$$\begin{aligned} \textcircled{79} \sin 495^\circ &= \sin 45^\circ = \frac{\sqrt{2}}{2} \\ \cos 495^\circ &= -\cos 45^\circ = -\frac{\sqrt{2}}{2} \\ \tan 495^\circ &= -\tan 45^\circ = -1 \end{aligned}$$

$$\begin{aligned} \textcircled{80} \sin 150^\circ &= -\sin 30^\circ = -\frac{1}{2} \\ \cos 150^\circ &= -\cos 30^\circ = -\frac{\sqrt{3}}{2} \\ \tan 150^\circ &= -\tan 30^\circ = -\frac{\sqrt{3}}{3} \end{aligned}$$

$$\begin{aligned} \textcircled{81} \sin 240^\circ &= -\sin 60^\circ = -\frac{\sqrt{3}}{2} \\ \cos 240^\circ &= -\cos 60^\circ = -\frac{1}{2} \\ \tan 240^\circ &= \tan 60^\circ = \sqrt{3} \end{aligned}$$

$$\begin{aligned} \textcircled{82} \sin 315^\circ &= -\sin 45^\circ = -\frac{\sqrt{2}}{2} \\ \cos 315^\circ &= \cos 45^\circ = \frac{\sqrt{2}}{2} \\ \tan 315^\circ &= -\tan 45^\circ = -1 \end{aligned}$$

Pg 482 # 12, 19, 31

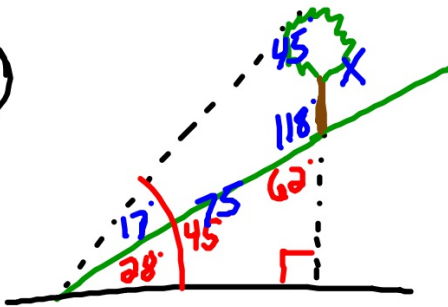
$$\begin{array}{l|l} \textcircled{12} \angle B = 25^\circ & \angle A = 40.924^\circ \\ a = 6.2 & \angle C = 114.076^\circ \\ b = 4 & c = 8.641 \end{array} \quad \left\{ \begin{array}{l} \angle A' = 139.076^\circ \\ \angle C' = 15.924^\circ \\ c' = 2.597 \end{array} \right.$$

$$\frac{\sin 25^\circ}{4} = \frac{\sin A}{6.2}$$

$$\frac{\sin 25^\circ}{4} = \frac{\sin 114.076^\circ}{c}$$

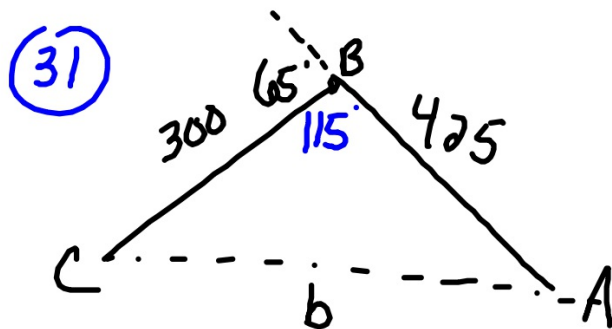
$$\frac{\sin 25^\circ}{4} = \frac{\sin 15.924^\circ}{c'}$$

19



$$\frac{\sin 45^\circ}{75} = \frac{\sin 17^\circ}{X}$$

$$X = 31.011 \text{ ft}$$



$$b^2 = 300^2 + 425^2 - 2 \cdot 300 \cdot 425 \cdot \cos 115^\circ$$

$$b^2 = 270,625 - 255,000 \cdot \cos 115^\circ$$

$$b^2 = 378,392.6567$$

$$b = 615.136 \text{ m}$$