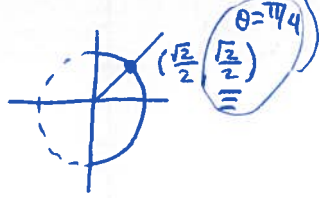
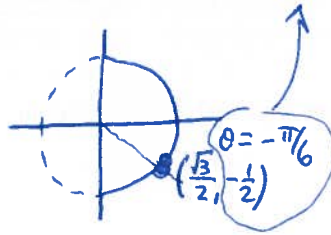


Section 8.3

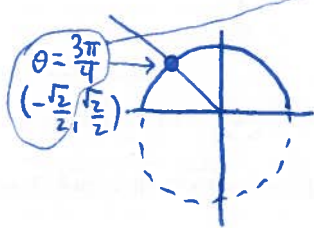
#8 $\sin^{-1}\left(\frac{\sqrt{2}}{2}\right) = \frac{\pi}{4}$



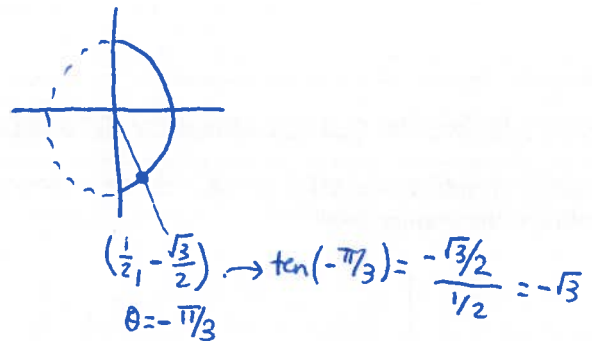
#9 $\sin^{-1}\left(-\frac{1}{2}\right) = -\frac{\pi}{6}$



#11 $\cos^{-1}\left(-\frac{\sqrt{2}}{2}\right) = \frac{3\pi}{4}$



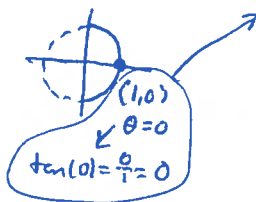
#13 $\tan^{-1}(-\sqrt{3}) = -\frac{\pi}{3}$



#18 $\arcsin(0.23) = 0.232 \dots$ rad
 $= 13.3^\circ$

#20 $\cos^{-1}(0.8) = 0.643 \dots$ rad
 $= 36.87^\circ$


#25 $\tan^{-1}(\sin(\pi)) = \tan^{-1}(0) = 0$



#26 $\cos^{-1}(\sin(\frac{\pi}{3})) = \cos^{-1}(\frac{\sqrt{3}}{2}) = \frac{\pi}{6}$



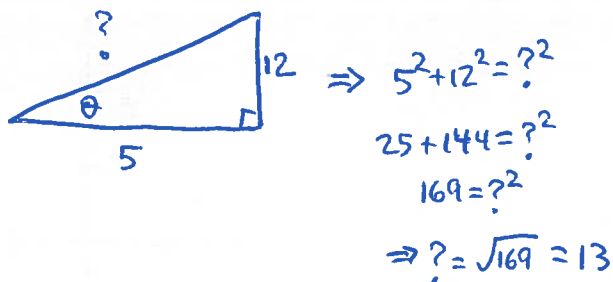
#32 $\cos(\sin^{-1}(\frac{4}{5}))$ not possible, 4

Soln: Let $\theta = \sin^{-1}(\frac{4}{5})$, then
 $\sin(\theta) = \frac{4}{5} \rightarrow$ 
 $\Rightarrow ?^2 + 4^2 = 5^2$
 $?^2 = 25 - 16 = 9$
 $\rightarrow ? = \sqrt{9} = 3$
 Therefore,
 $\cos(\sin^{-1}(\frac{4}{5})) = \cos(\theta) = \frac{3}{5}$

#35 | $\cos(\tan^{-1}(\frac{12}{5}))$

(2)

Soln: let $\theta = \tan^{-1}(\frac{12}{5})$, then $\tan(\theta) = \frac{12}{5}$. Draw a Δ :

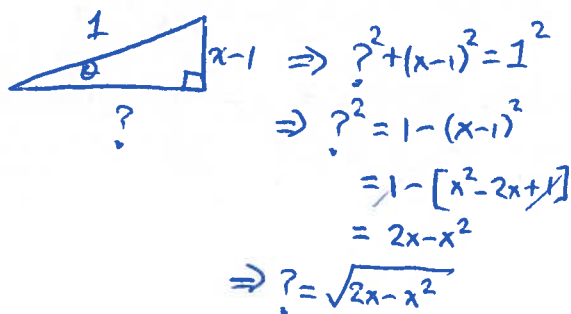


Therefore,

$$\cos(\tan^{-1}(\frac{12}{5})) = \cos(\theta) = \frac{5}{13}$$

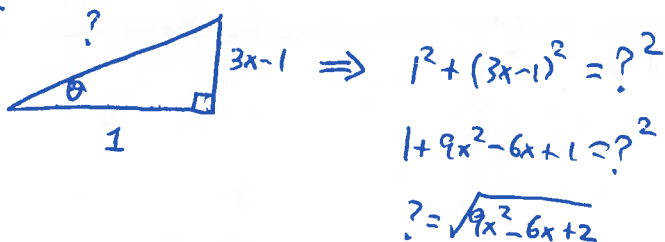
#37 | $\tan(\sin^{-1}(x-1))$

Soln: let $\theta = \sin^{-1}(x-1)$, thus $\sin(\theta) = x-1$. Draw a Δ :



#40 | $\cos(\tan^{-1}(3x-1))$

Soln: let $\theta = \tan^{-1}(3x-1)$, then $\tan(\theta) = 3x-1$. Draw a Δ :



Therefore,

$$\cos(\tan^{-1}(3x-1)) = \cos(\theta) = \frac{1}{\sqrt{9x^2 - 6x + 2}}$$