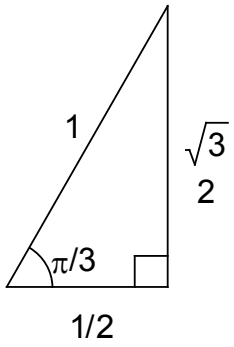
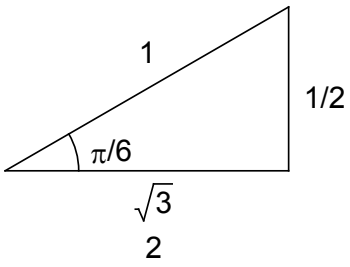
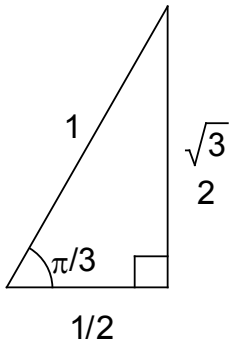
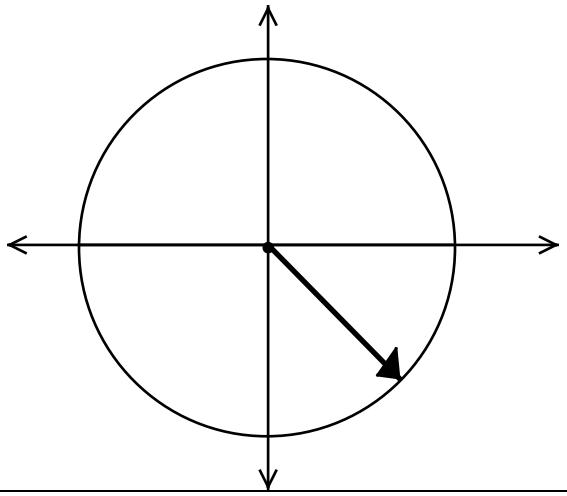
Homework 6 Math 48C Mitchell Schoenbrun
8.6 P. 585 #2-26 even 40, 41

2. $\tan\left(-\frac{5\pi}{7}\right)=1.254$	**4.** $\cot(8)=-.147$
6. $\cot\left(\frac{3\pi}{2}\right)=0$	**8.** $\tan(-\pi)=0$
10. $\cot\left(-\frac{2\pi}{3}\right)=\frac{\cos\left(-\frac{2\pi}{3}\right)}{\sin\left(-\frac{2\pi}{3}\right)}=\frac{-\cos\left(\frac{\pi}{3}\right)}{-\sin\left(\frac{\pi}{3}\right)}=\frac{\cos\left(\frac{\pi}{3}\right)}{\sin\left(\frac{\pi}{3}\right)}$ The 2nd step is done by finding the reference angle.	
$\frac{\cos\left(\frac{\pi}{3}\right)}{\sin\left(\frac{\pi}{3}\right)}=\frac{1/2}{\sqrt{3}/2}=\frac{1}{\sqrt{3}}$	The sine and cosine are found by looking at the 30/60/90 triangle above.
12. $\frac{\csc(\theta)}{\sec(\theta)}=\frac{1/\sin(\theta)}{1/\cos(\theta)}=\frac{\cos(\theta)}{\sin(\theta)}=\cot(\theta)$	**14.** $\frac{\cot(\theta)}{\csc(\theta)}=\frac{\cos(\theta)/\sin(\theta)}{1/\sin(\theta)}=\cos(\theta)$ Note: this is only correct for $\theta\neq\pi n$, why?
16. $\csc(180^\circ)=\frac{1}{\sin(180^\circ)}=\frac{1}{0}\rightarrow DNE!$	
18. $\csc\left(\frac{5\pi}{6}\right)=\frac{1}{\sin\left(\frac{5\pi}{6}\right)}=\frac{1}{\sin\left(\frac{\pi}{6}\right)}$	
$\frac{1}{\sin\left(\frac{\pi}{6}\right)}=\frac{1}{1/2}=2$	The sine is found by looking at the 30/60/90 triangle above.

20. $\sec\left(\frac{8\pi}{3}\right)=\frac{1}{\cos\left(\frac{8\pi}{3}\right)}=\frac{1}{\cos\left(\frac{2\pi}{3}\right)}=\frac{1}{-\cos\left(\frac{\pi}{3}\right)}$	
$\frac{1}{-\cos\left(\frac{\pi}{3}\right)}=-\frac{1}{1/2}=-2$	The cosine is found by looking at the 30/60/90 triangle above.
22. $\cot\left(210^\circ\right)=\frac{\cos\left(210^\circ\right)}{\sin\left(210^\circ\right)}=\frac{-\frac{\sqrt{3}}{2}}{-\frac{1}{2}}=\sqrt{3}$	
24. 	**40.** $f\left(\theta\right)=\cot\left(\frac{1}{3}\left(\theta+45^\circ\right)\right)$
41. $f\left(\theta\right)=-\frac{5}{2}\sin\left(2\theta\right)+1.4$	