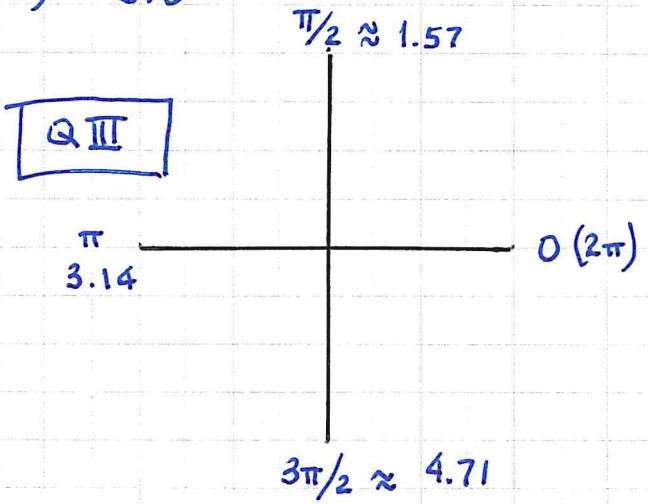
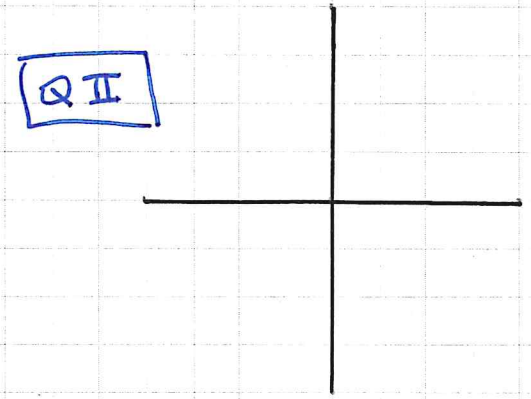
Math 27, HW #23 Selected Problems

Pg 261, #18 Determine the quadrant of the terminal side.

a) 3.5



b) 2.25



Pg 261, #25 Determine two coterminal angles (one +, one −) for:

a) $\theta = \pi/6$

+ : $\frac{\pi}{6} + \frac{12\pi}{6} = \boxed{\frac{13\pi}{6}}$

− : $\frac{\pi}{6} - \frac{12\pi}{6} = \frac{-11\pi}{6}$

b) $\theta = 2\pi/3$

+ : $\frac{2\pi}{3} + \frac{6}{\frac{8\pi}{3}} = \frac{8\pi}{3}$

− : $\frac{2\pi}{3} - \frac{6\pi}{3} = \frac{-4\pi}{3}$

$$\frac{\theta^\circ}{180^\circ} = \frac{\theta^r}{\pi}$$

Pg. 262, #49 Convert to radian measure:

a) 18°: $\frac{18^\circ}{180^\circ} = \frac{\theta}{\pi} \Rightarrow \theta = \boxed{\frac{\pi}{10}} = \frac{18\pi}{180}$

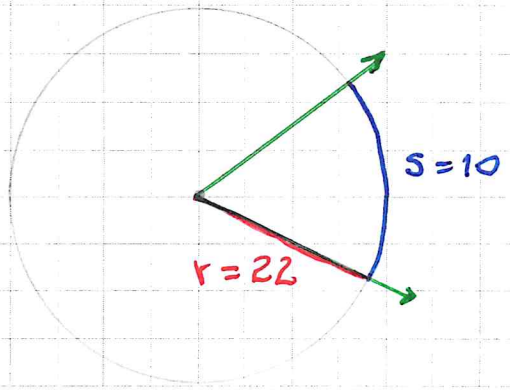
b) -240°: $\frac{-240^\circ\ \pi}{180} = \frac{-4\pi}{3} = -\frac{4}{3}\pi$

Pg. 262, #65 Convert -2 radians to degrees.

$$\frac{\theta^\circ}{180^\circ} = \frac{-2}{\pi} \Rightarrow \theta^\circ = \frac{-360^\circ}{\pi}$$

Pg. 262, #94 Find the radian measure of θ if $r = 22$ ft. and $s = 10$ ft.

$$\boxed{\theta = \frac{s}{r}} \Rightarrow s = r\theta$$



$$\theta = \frac{10\ \cancel{ft.}}{22\ \cancel{ft.}} = \boxed{\frac{5^r}{11}}$$