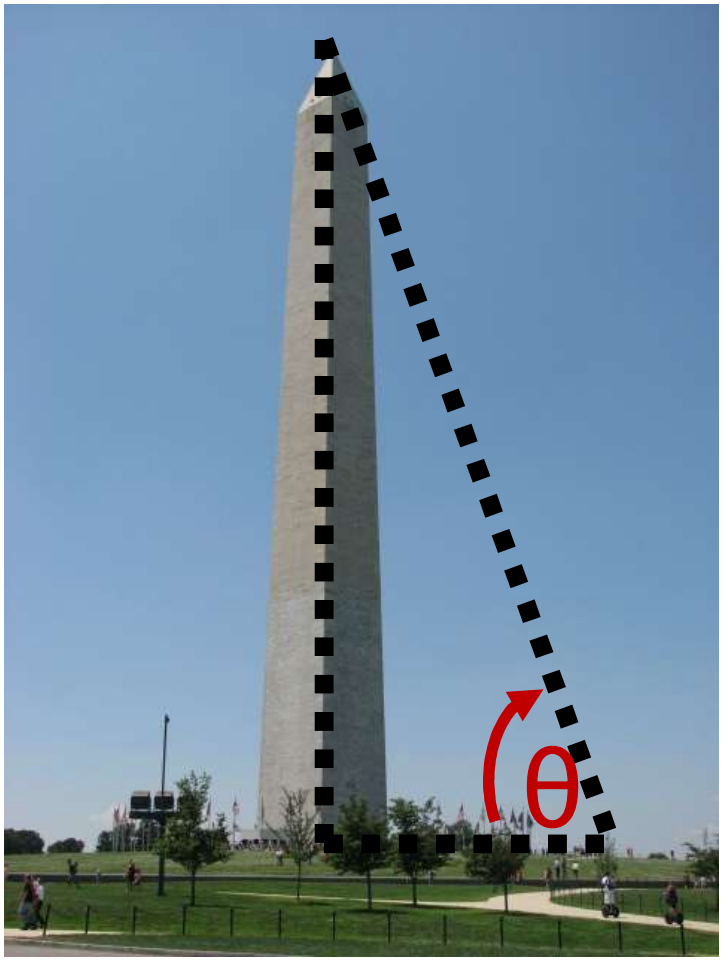
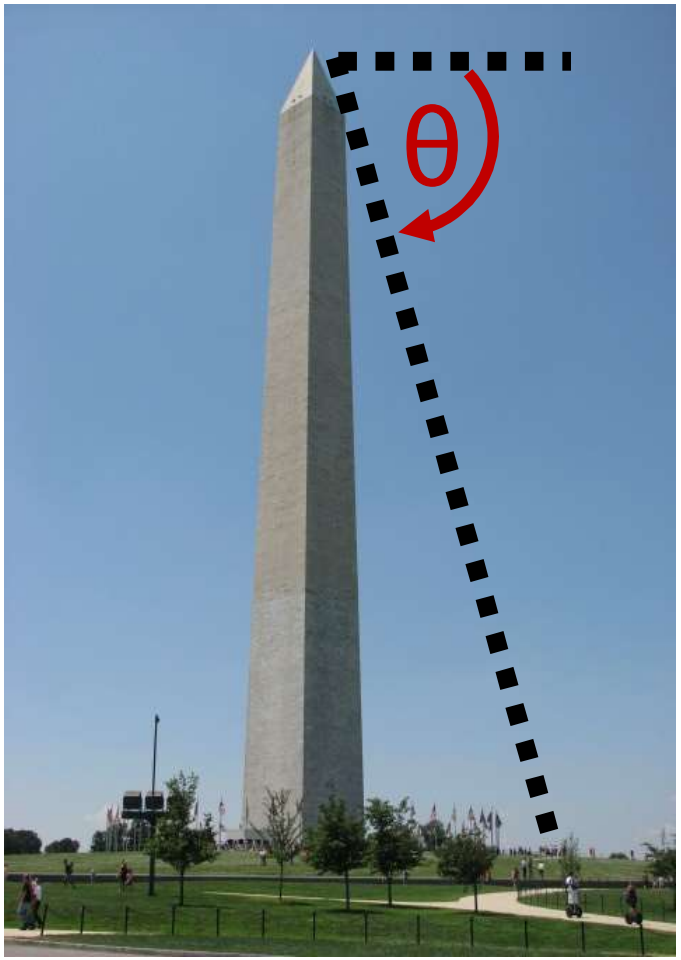
Angle of Elevation:



Angle of Descent or Angle of Depression:



Principal Values:

Principal values create a unique (one) solution:

Sinθ and Tanθ → Quadrant I (+)

Quadrant IV (-)

$$-\frac{\pi}{2} \le \theta \le \frac{\pi}{2}$$

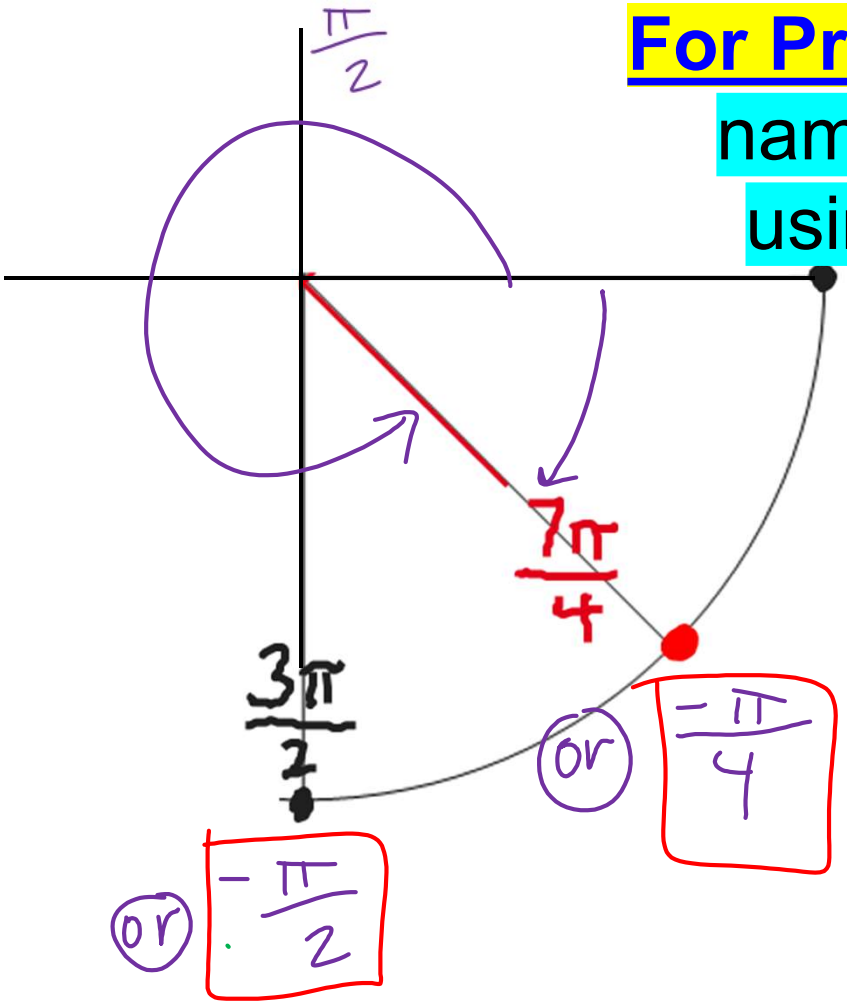
Cosθ → Quadrant I (+)

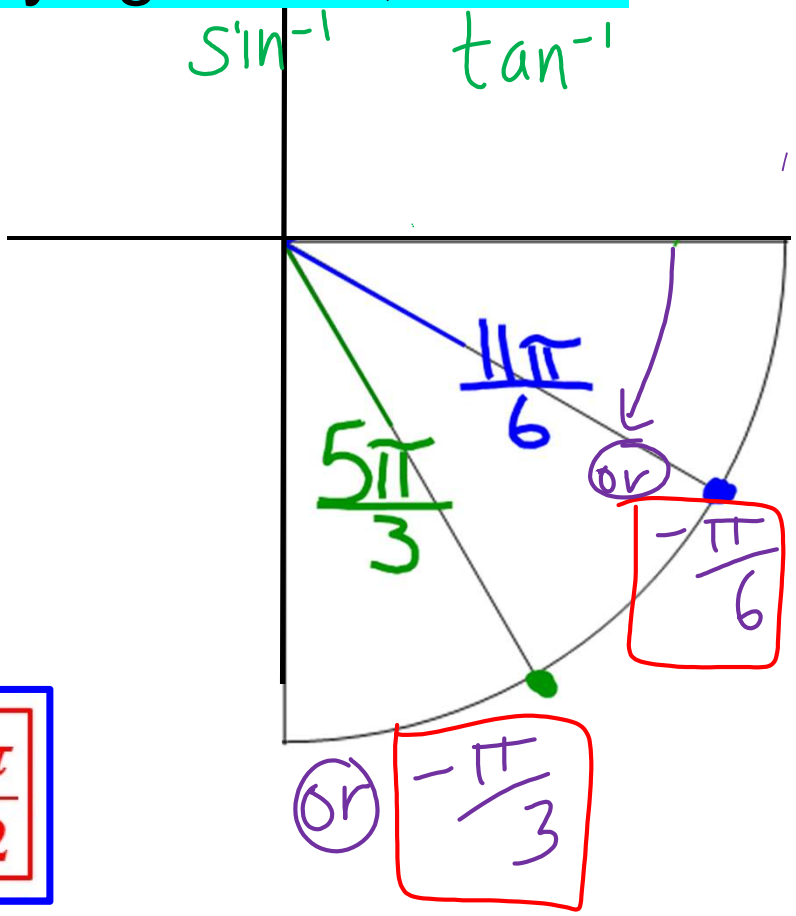
Quadrant II (-)

$$0 \le \theta \le \pi$$

For Principal Values in WebAssign:

name your angle for quadrant IV using a negative rotation when applying arcsin, arctan

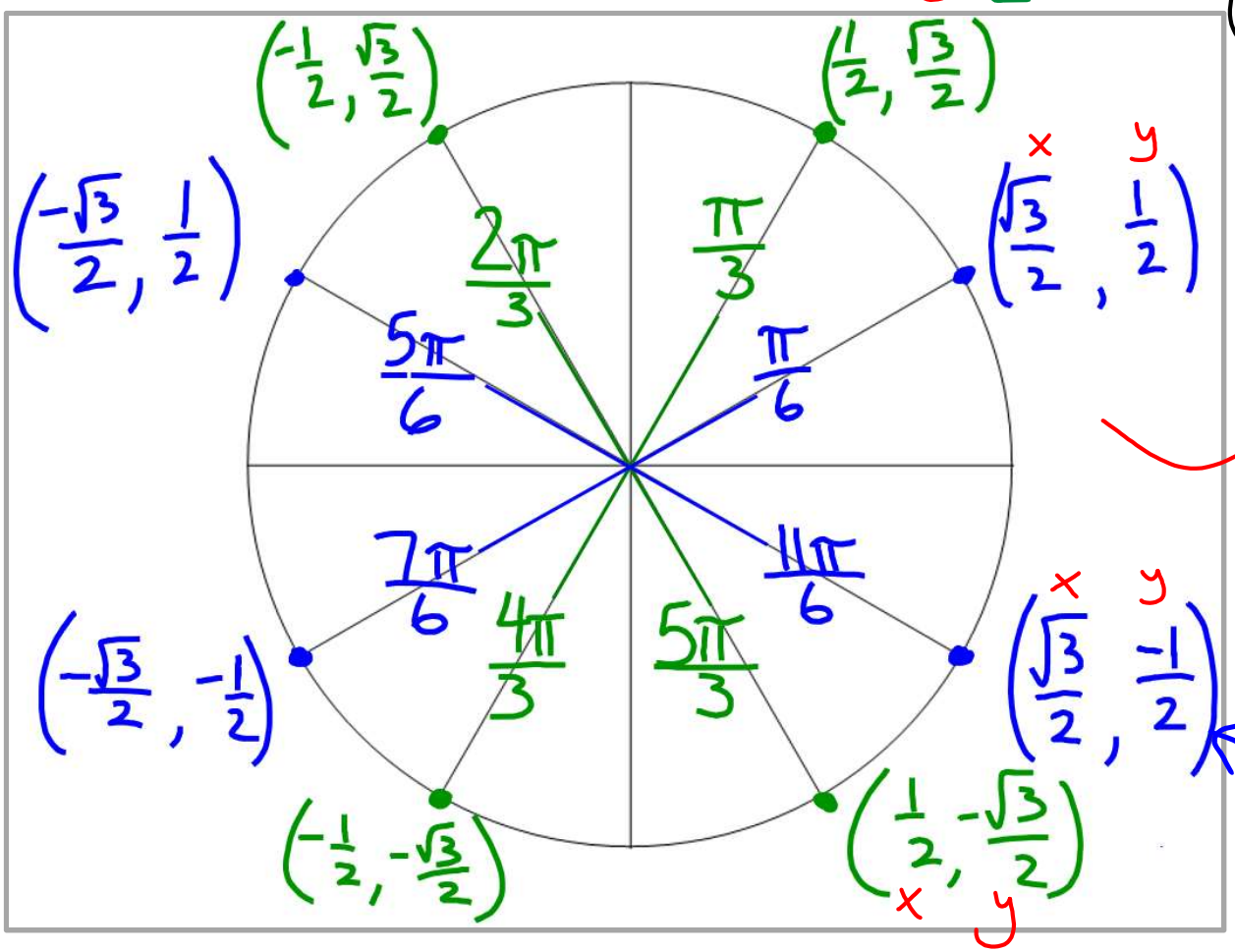




Sinθ and Tanθ → $-\frac{\pi}{2} \le \theta \le \frac{\pi}{2}$

sin θ tan θ

Cosθ → $0 \le \theta \le \pi$

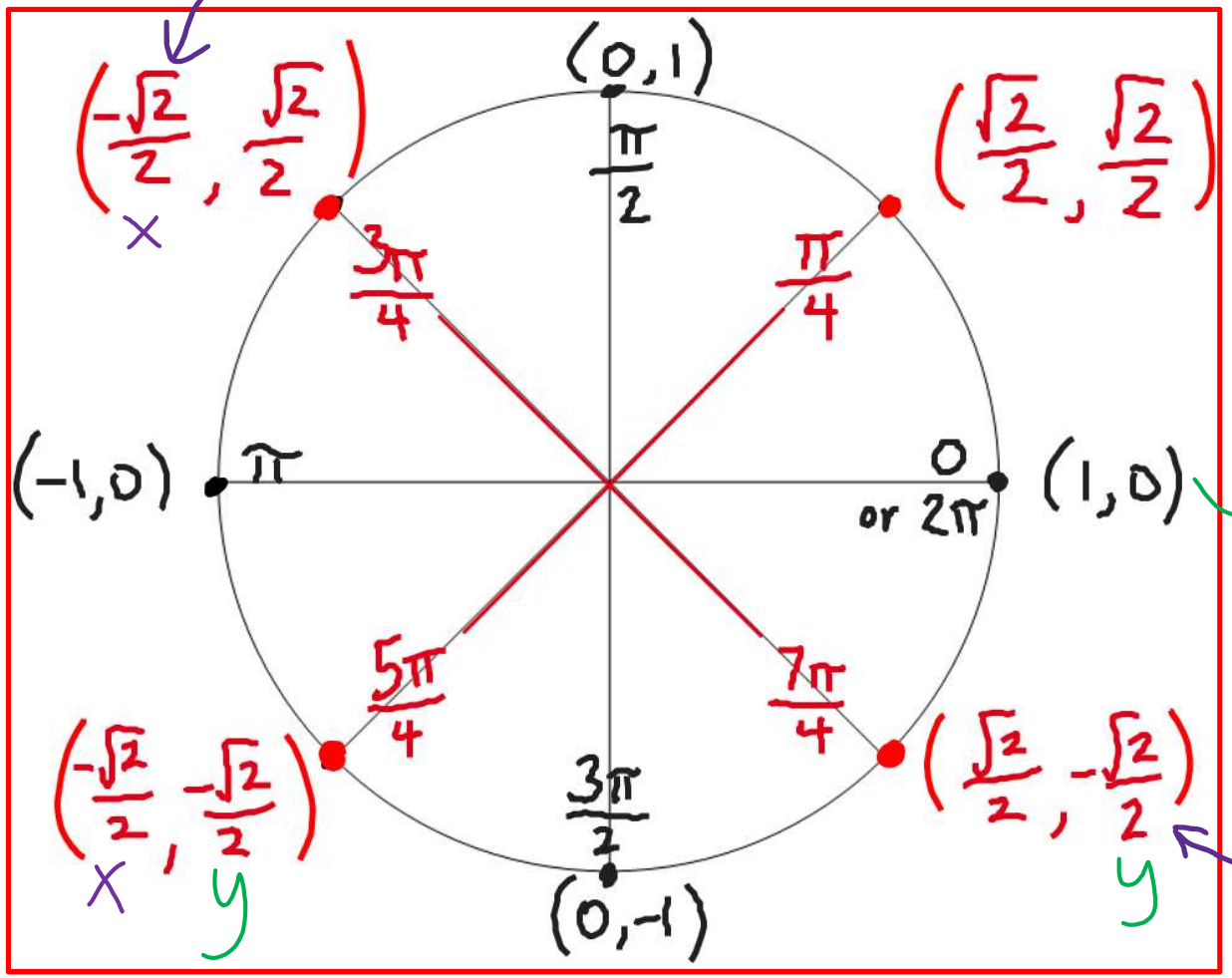


Arctan $(\sqrt{3})$

or $\tan^{-1}(\sqrt{3})$

Arctan $\left(-\frac{\sqrt{3}}{3}\right)$

or $\tan^{-1}\left(-\frac{\sqrt{3}}{3}\right)$



Arccos $\left(-\frac{\sqrt{2}}{2}\right)$

or $\cos^{-1}\left(-\frac{\sqrt{2}}{2}\right)$

Arcsin $\left(-\frac{\sqrt{2}}{2}\right)$

or $\sin^{-1}\left(-\frac{\sqrt{2}}{2}\right)$

Be able to label unit circle with radian values AND coordinates, then answer various final exam questions.

Ch.8 polar coordinates/equations

Ch.11 conics

Ch.13 limits

Trig: unit circle, triangles, all 6 functions