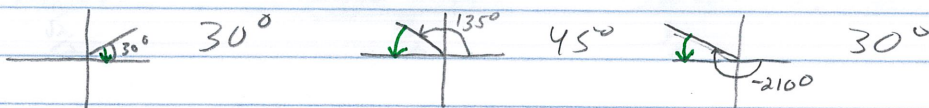


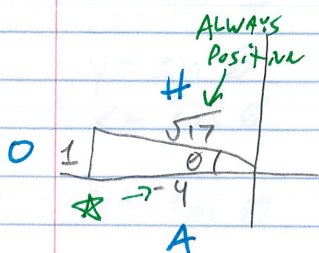
5-2

Using Terminal Sides

Ex 1: Reference \angle 's: The Fastest way back to the x-axis from a given point or \angle . Used to find the 6 trig values for a given point/ \angle . Measured by the number of degrees it takes to get to the x-axis, from the terminal side.



Ex 1: Find the exact value of all 6 trig functions given an \angle in standard position and the terminal side going through the point $(-4, 1)$



$$1^2 + (-4)^2 = c^2$$

$$1 + 16 = c^2$$

$$17 = c^2$$

$$\sqrt{17} = c$$

$$\sin \theta = \frac{1}{\sqrt{17}} = \frac{\sqrt{17}}{17}$$

$$\cos \theta = \frac{-4}{\sqrt{17}} = \frac{-4\sqrt{17}}{17}$$

$$\csc \theta = \frac{\sqrt{17}}{1} = \sqrt{17}$$

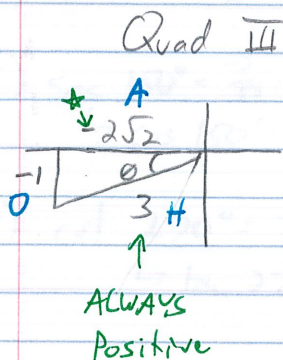
$$\sec \theta = \frac{\sqrt{17}}{-4}$$

$$\tan \theta = \frac{1}{-4}$$

$$\cot \theta = \frac{-4}{1} = -4$$

Ex 2: If θ terminates in the given quadrant and has the given function value, find all 6 trig functions:

II	I
III	IV



Quad II, $\csc \theta = -3$

$$(-1)^2 + b^2 = 3^2$$

$$1 + b^2 = 9$$

$$b^2 = 8$$

$$b = 2\sqrt{2}$$

$$\sin \theta = \frac{1}{3}$$

$$\csc \theta = -3$$

$$\cos \theta = \frac{-2\sqrt{2}}{3}$$

$$\sec \theta = \frac{3}{-2\sqrt{2}} = \frac{-3\sqrt{2}}{4}$$

$$\tan \theta = \frac{1}{2\sqrt{2}} = \frac{\sqrt{2}}{4}$$

$$\cot \theta = \frac{-2\sqrt{2}}{1} = -2\sqrt{2}$$

CW/HW worksheet