

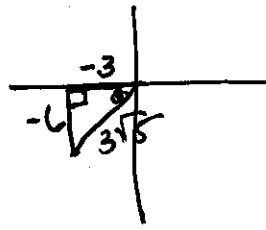
17) Find the six trig functions of the angle  $\theta$  (in standard position) whose terminal side passes through the point  $(-3, -6)$ .

$$\frac{-6}{3\sqrt{5}} \cdot \frac{\sqrt{5}}{\sqrt{5}} = \frac{-6\sqrt{5}}{15} = \frac{-2\sqrt{5}}{5} \quad \csc\theta = \frac{-3\sqrt{5}}{6}$$

$$\cos\theta = \frac{-3}{3\sqrt{5}} = \frac{-1}{\sqrt{5}} \quad \sec\theta = \frac{\sqrt{5}}{-1}$$

$$\tan\theta = \frac{-6}{-3} = 2 \quad \cot\theta = \frac{1}{2}$$

$$-6/-3 \quad -3/-6$$



$$(-3)^2 + (-6)^2 = c^2$$

$$9 + 36 = c^2$$

$$45 = c^2$$

$$c = 3\sqrt{5}$$

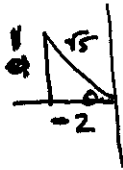
18) Find the six trig functions of the angle  $\theta$  (in standard position) given:

$$\csc\theta = \sqrt{5}; \cos\theta < 0 \quad (-, +)$$

$$\sin\theta = \frac{1}{\sqrt{5}} \cdot \frac{\sqrt{5}}{\sqrt{5}} = \frac{\sqrt{5}}{5} \quad \csc\theta = \sqrt{5}$$

$$\cos\theta = \frac{-2}{\sqrt{5}} \cdot \frac{\sqrt{5}}{\sqrt{5}} = \frac{-2\sqrt{5}}{5} \quad \sec\theta = \frac{-\sqrt{5}}{2}$$

$$\tan\theta = -\frac{1}{2} \quad \cot\theta = -2$$



$$\csc = \frac{hyp}{opp}$$

$$\sin = \frac{opp}{hyp}$$

$$1^2 + b^2 = (\sqrt{5})^2$$

$$1 + b^2 = 5$$

$$b^2 = 4$$

$$b = 2$$

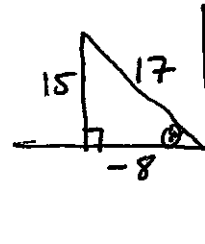
19) Find the remaining five trig functions of  $\theta$  satisfying the given conditions.

$$\tan\theta = \frac{-15}{8} \quad \text{Quadrant II}$$

$$\sin\theta = \frac{15}{17} \quad \csc\theta = \frac{17}{15}$$

$$\cos\theta = \frac{-8}{17} \quad \sec\theta = \frac{-17}{8}$$

$$\tan\theta = \frac{-15}{8} \quad \cot\theta = \frac{-8}{15}$$



$$(-8)^2 + (15)^2 = c^2$$

$$64 + 225 = c^2$$

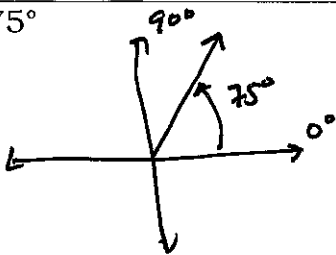
$$289 = c^2$$

$$17 = c$$

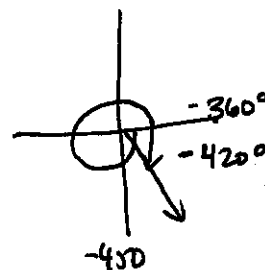
\* Be careful =  
Notice the x-value  
-cos is negative not  
the y-value -sin!

Sketch the following angles in standard position.

20.  $75^\circ$

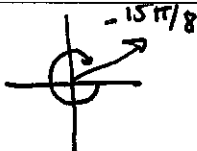


21.  $-420^\circ$



Name the quadrant.

22.  $\frac{15\pi}{8}$   
I



23.  $\frac{7\pi}{20}$

