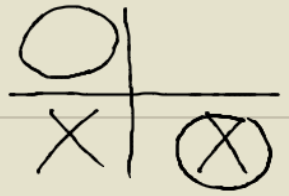
8. $\sin\theta = \frac{-1}{6}$ $\cot\theta < 0$ $\frac{x}{y}$ IS NEG $\frac{5}{-2}$ $\frac{-3}{4}$

(1)



QIII

(2) $\sin\theta = -\frac{1}{6}$

AND $\sin\theta = \frac{y}{r}$

So $y = -1$ $r = 6$

$x^2 + y^2 = r^2$

$x^2 + (-1)^2 = 6^2$

$x^2 + 1 = 36$

$x^2 = 36 - 1$

$x^2 = 35$

$x = \pm\sqrt{35}$

SO $x = \sqrt{35}$

(3) $x = \sqrt{35}$, $y = -1$, $r = 6$

$\cos\theta = \frac{x}{r} = \frac{\sqrt{35}}{6}$

$\tan\theta = \frac{y}{x} = \frac{-1}{\sqrt{35}} = \frac{-\sqrt{35}}{35}$

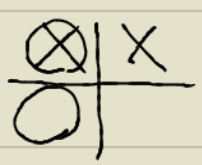
$\csc\theta = \frac{6}{-1} = -6$

$\sec\theta = \frac{6}{\sqrt{35}} = \frac{6\sqrt{35}}{35}$

$\cot\theta = \frac{\sqrt{35}}{-1} = -\sqrt{35}$

9. $\sec\theta = -5$ $\csc\theta > 0$

(1)



QII

(2) $\sec\theta = \frac{-5}{1} = \frac{5}{-1}$

RECALL $\sec\theta = \frac{r}{x}$

So $r = 5$, $x = -1$

$x^2 + y^2 = r^2$

$(-1)^2 + y^2 = 5^2$

$1 + y^2 = 25$

$y^2 = 25 - 1$

$y^2 = 24$

$y = \pm\sqrt{24}$

$y = \pm\sqrt{2\cdot 2\cdot 2\cdot 3}$

$y = \pm 2\sqrt{6}$

SO $y = 2\sqrt{6}$

(3) $x = -1$ $y = 2\sqrt{6}$ $r = 5$

$\cos\theta = \frac{x}{r} = \frac{-1}{5}$

$\sin\theta = \frac{y}{r} = \frac{2\sqrt{6}}{5}$

$\tan\theta = \frac{y}{x} = \frac{2\sqrt{6}}{-1} = -2\sqrt{6}$

$\csc\theta = \frac{5}{2\sqrt{6}} = \frac{5\cdot\sqrt{6}}{2\sqrt{6}\cdot\sqrt{6}} = \frac{5\sqrt{6}}{12}$

$\cot\theta = \frac{-1}{2\sqrt{6}} = \frac{-1\cdot\sqrt{6}}{2\sqrt{6}\cdot\sqrt{6}} = \frac{-\sqrt{6}}{12}$