



POINT NOT ON UNIT CIRCLE

$$\sin \theta = \frac{y}{r} \quad \csc \theta = \frac{r}{y}$$

$$\cos \theta = \frac{x}{r} \quad \sec \theta = \frac{r}{x}$$

$$\tan \theta = \frac{y}{x} \quad \cot \theta = \frac{x}{y}$$

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

$$r = \sqrt{x^2 + y^2}$$

7. $(-2, 5)$
 \uparrow \uparrow
 x y

$$r = \sqrt{x^2 + y^2}$$

$$r = \sqrt{(-2)^2 + 5^2}$$

$$r = \sqrt{29}$$

$$\sin \theta = \frac{y}{r} = \frac{5}{\sqrt{29}} = \frac{5\sqrt{29}}{29}$$

$$\csc \theta = \frac{\sqrt{29}}{5}$$

$$\cos \theta = \frac{x}{r} = \frac{-2}{\sqrt{29}} = \frac{-2\sqrt{29}}{29}$$

$$\sec \theta = \frac{-\sqrt{29}}{2}$$

$$\tan \theta = \frac{y}{x} = \frac{5}{-2}$$

$$\cot \theta = \frac{-2}{5}$$

8. a) "y" $\sin \theta > 0$ "x" $\cos \theta < 0$

b) $\frac{1}{x}$ $\sec \theta < 0$ $\frac{y}{x}$ $\tan \theta < 0$

