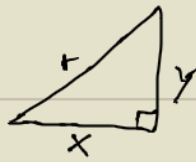


GIVEN A POINT (x, y)
NOT ON UNIT CIRCLE



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

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

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

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

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

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

14. $(-12, -5)$
x y

2ND $\cos \theta = \frac{x}{r} = \frac{-12}{13}$

$$\sec \theta = \frac{13}{-12}$$

1ST $r = \sqrt{x^2 + y^2}$

$$\sin \theta = \frac{y}{r} = \frac{-5}{13}$$

$$\csc \theta = \frac{13}{-5}$$

$$r = \sqrt{(-12)^2 + (-5)^2}$$

$$\tan \theta = \frac{y}{x} = \frac{-5}{-12}$$

$$= \frac{5}{12} \quad \cot \theta = \frac{12}{5}$$

$$r = \sqrt{144 + 25}$$

$$r = \sqrt{169}$$

$$r = \sqrt{13 \cdot 13}$$

$$r = 13$$

15. $(-3, 5)$
x y

2ND

$$\cos \theta = \frac{x}{r} = \frac{-3}{\sqrt{34}} = \frac{-3\sqrt{34}}{34}$$

$$\sec \theta = \frac{\sqrt{34}}{-3}$$

1ST $r = \sqrt{x^2 + y^2}$

$$\sin \theta = \frac{y}{r} = \frac{5}{\sqrt{34}} = \frac{5\sqrt{34}}{34}$$

$$\csc \theta = \frac{\sqrt{34}}{5}$$

$$r = \sqrt{(-3)^2 + (5)^2}$$

$$= \sqrt{9 + 25}$$

$$\tan \theta = \frac{y}{x} = \frac{5}{-3}$$

$$\cot \theta = \frac{-3}{5}$$

$$= \sqrt{34}$$