

Review Assignment #4

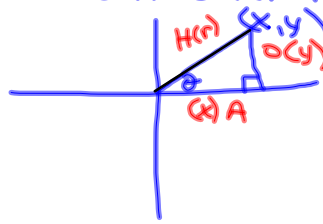
x, y, r

SOH CAH TOA

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

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

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



Ex #1 Given θ is formed by a terminal arm going thru $(-5, 12)$.

Find $\sin \theta = \frac{y}{r} = \frac{12}{13}$ Need $x = -5$

$\cos \theta = \frac{x}{r} = \frac{-5}{13}$ $y = 12$

$\tan \theta = \frac{y}{x} = \frac{12}{-5}$ $r = \sqrt{(-5)^2 + 12^2}$

$r = \sqrt{169} = 13$

Topic 2 - Trig Equations

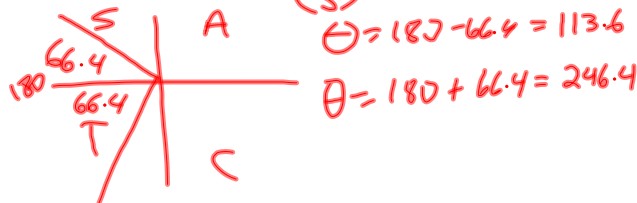
Find all values of θ from 0 to 360° .

$$5 \cos \theta + 4 = 2$$

$$5 \cos \theta = -2$$

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

ref θ 2nd $\cos(\frac{\pi}{5})$ ref $\theta = 66.4$



Topic 3 Ambiguous

Law of Sines repeated

$$\angle A = 39^\circ$$

$$\text{Side } a = 8$$

$$\text{Side } b = 11$$

find both values of c

1) Find $\angle B$

$$\frac{8}{\sin 39^\circ} = \frac{11}{\sin B}$$

$$\sin B = 0.653$$

$$\angle B = 59.3^\circ$$

2) Find c

$$\angle c_1 = 180 - \angle B - \angle A$$

$$\angle c_1 = 81.7^\circ$$

$$\frac{8}{\sin 39^\circ} = \frac{c_1}{\sin 81.7^\circ}$$

$$c_1 = 12.57$$

Find c_2

$$\angle c_2 = \angle B - \angle A$$

$$\angle c_2 = 20.3^\circ$$

$$\frac{8}{\sin 39^\circ} = \frac{c_2}{\sin 20.3^\circ}$$

$$c_2 = 4.41$$

