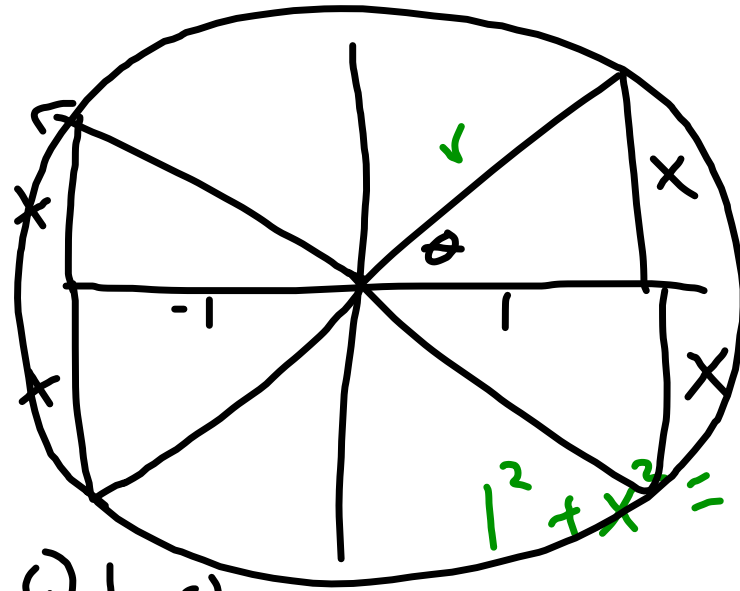


47/

$$\sin(\tan^{-1}x)$$

$$\frac{x}{\sqrt{1+x^2}}$$



if  $\theta_1, \theta_2$

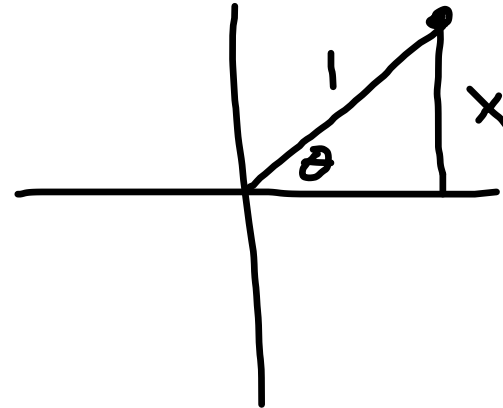
$$1^2 + x^2 = r^2$$

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

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$$\sin(\overset{\text{Angle}}{\sin^{-1}\left(\frac{x}{1}\right)}) = 1$$

ratio



$$\sin \theta = 1$$

$$\theta = \frac{\pi}{2}$$

$$x = 1$$



$$f(x) = 221.5 \sin\left(\frac{\pi}{15}(x-7.5)\right) + 221.5$$

$$400 = 221.5 \sin\left(\frac{\pi}{15}(x-7.5)\right) + 221.5$$

$$178.5 = 221.5 \sin\left(\frac{\pi}{15}(x-7.5)\right)$$

$$.80586 = \sin\left(\frac{\pi}{15}(x-7.5)\right)$$

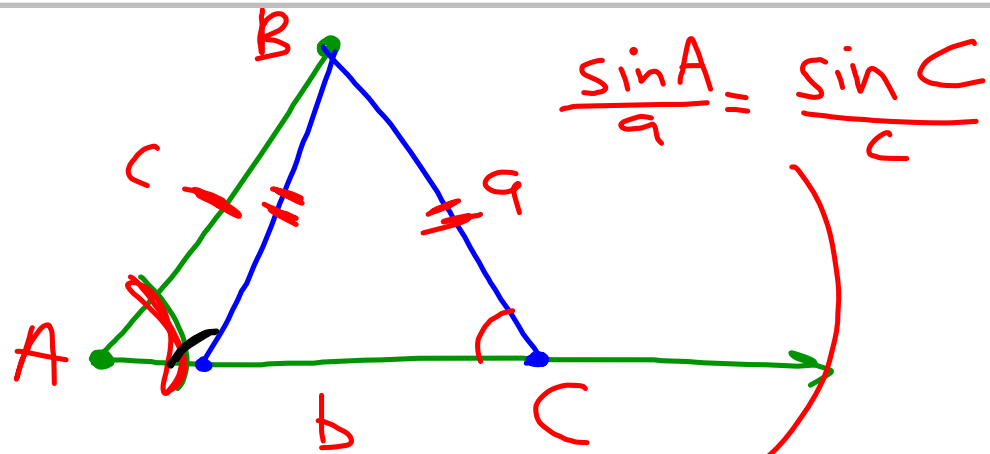
$$\sin^{-1}(.80586) = \frac{\pi}{15}(x-7.5)$$

$$.93714 = \frac{\pi}{15}(x-7.5)$$

$$4.4745 = x - 7.5$$

$$11.9745 = x$$

$$11 \text{ min } 58 \text{ sec} = x$$



$$\sin C = \frac{c \sin A}{a}$$

$$C = \sin^{-1}\left(\frac{c \sin A}{a}\right)$$

