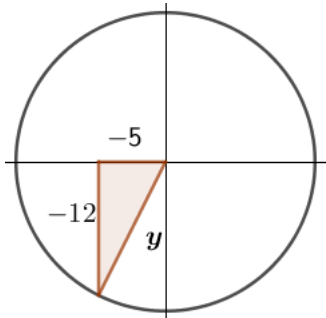


If $\tan x = \frac{12}{5}$ and $\pi < x < \frac{3\pi}{2}$, find the value of $\cos x$

x is in the third quadrant

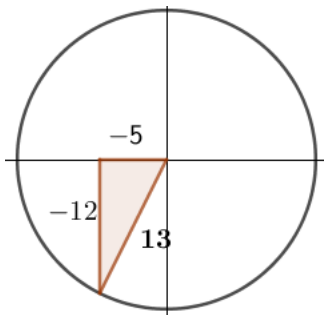


Using Pythagoras' Theorem:

$$y^2 = (-12)^2 + (-5)^2$$

$$y^2 = 144 + 25 = 169$$

$$y = \sqrt{169} = 13$$



$$\cos x = \frac{-5}{13}$$