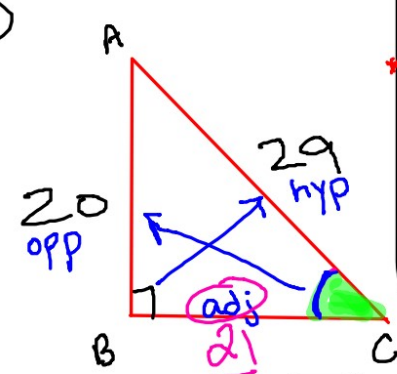
SOH CAH TOA

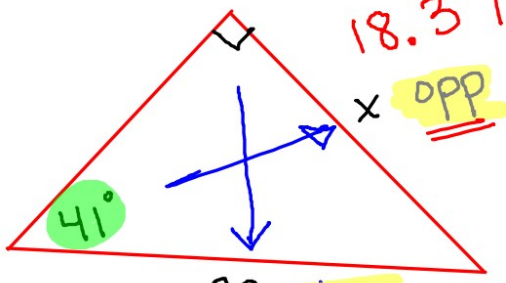
$\sin\theta = \frac{opp}{hyp}$

$\cos\theta = \frac{adj}{hyp}$

$\tan\theta = \frac{opp}{adj}$

① 


② Solve for x:




Find

$\sin C = \frac{20}{29}$

$\cos C = \frac{21}{29}$

$\tan C = \frac{20}{21}$

Pythagorean Thm.

$20^2 + l^2 = 29^2$

$400 + l^2 = 841$

$\sqrt{l^2} = \sqrt{441}$

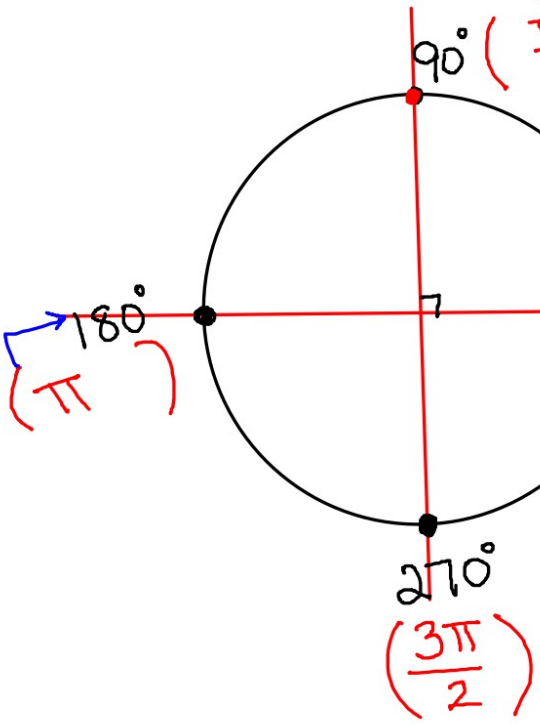
$l = 21$

$\sin\theta = \frac{opp}{hyp}$

$28\sin 41° = \frac{x}{28} \cdot 28$

$18.37 \approx x$

# Converting Degrees to Radians




* A complete rotation (circle) is 2π radians.

* Convert Radians into Degrees

Multiply by $\frac{180}{\pi}$

Radian $\xrightarrow{\left(\frac{180}{\pi}\right)}$ Degrees

Ex:

a) $\frac{3\pi}{4}\left(\frac{180}{\pi}\right) \rightarrow \frac{540^\circ}{4} = 135^\circ$

b) $4\pi\left(\frac{180}{\pi}\right) \rightarrow = 720^\circ$

c) $\frac{5\pi}{2}\left(\frac{180}{\pi}\right) \rightarrow \frac{900^\circ}{2} = 450^\circ$

Convert

* Degrees into Radians

Multiply by $\frac{\pi}{180}$

$\frac{21}{18} = \frac{7}{6}$

Ex:

| Degrees | | Radians |
|---|---|---|
| a) $210^\circ \left(\frac{\pi}{180}\right)$ | $= \frac{210\pi}{180}$ | $= \frac{7\pi}{6}$ |
| b) $1040^\circ \left(\frac{\pi}{180}\right)$ | $= \frac{1040\pi}{180}$ | $= \frac{52\pi}{9}$ |
| c) $60^\circ \left(\frac{\pi}{180}\right)$ | $= \frac{60\pi}{180} = \frac{1\pi}{3}$ | $= \frac{\pi}{3}$ |