Geometry 7-4 Day 2

Example. 1) A fitness trainer sets the incline on a treadmill to 7°. The walking surface is 5 feet long. Approximately how many inches did the trainer raise the end of the treadmill from the floor.

opp. x

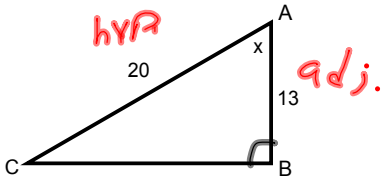
hyp. 5ft * 12 = 60in

$\sin 7^\circ = \frac{x}{60}$

$60 \sin 7^\circ = x$

$7.31 \text{ in.} \approx x$

Example 2



hyp

adj.

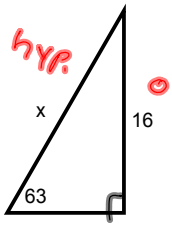
Find x

$\cos x^\circ = \frac{13}{20}$

$x = \cos^{-1}\left(\frac{13}{20}\right)$

$x \approx 49.46^\circ$

Example 3



hyp.

opp.

Find x

SOH-CAH-TOA

$\frac{\sin 63^\circ}{1} = \frac{16}{x}$

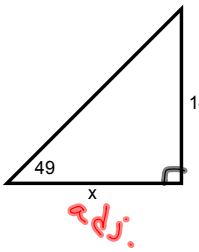
$x \sin 63^\circ = 16$

$\frac{x \sin 63^\circ}{\sin 63^\circ} = \frac{16}{\sin 63^\circ}$

$x \approx 17.96$

Example 4

Find x



opp.

adj.

$\frac{\tan 49^\circ}{1} = \frac{14}{x}$

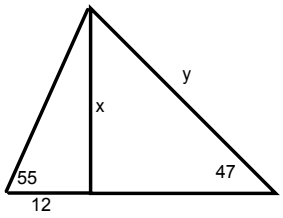
$x \tan 49^\circ = 14$

$\frac{x \tan 49^\circ}{\tan 49^\circ} = \frac{14}{\tan 49^\circ}$

$x \approx 12.17$

Example 5

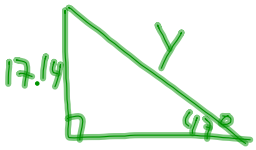
Find x and y



$\frac{\tan 55^\circ}{1} = \frac{x}{12}$

$x = 12 \tan 55^\circ$

$x \approx 17.14$



$\frac{\sin 47^\circ}{1} = \frac{17.14}{y}$

$\frac{y \sin 47^\circ}{\sin 47} = \frac{17.14}{\sin 47}$

$y \approx 23.44$