Definition of Trig Ratios

HYPOTENUSE

OPPOSITE

THETA
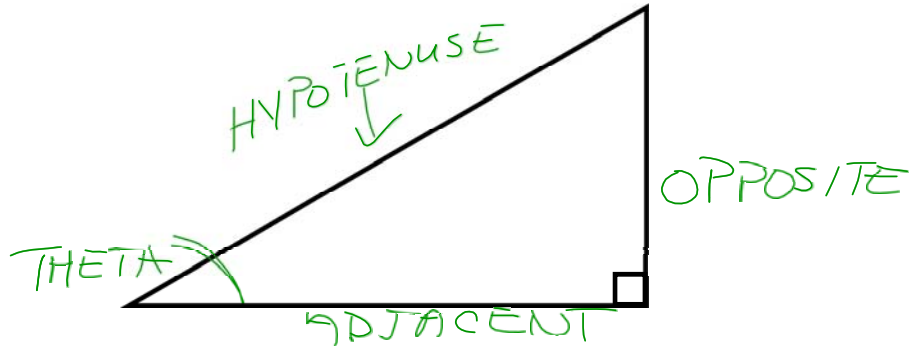
ADJACENT

SOH   CAH   TOA

Definition	Abbrev.	Ratio
· SINE	SIN	$\dfrac{OPPOSITE}{HYPOTENUSE}$
COSINE	COS	$\dfrac{ADJECENT}{HYPOTENUSE}$
TANGENT	TAN	$\dfrac{OPPOSITE}{ADJECENT}$

Summary
- for any angle θ

$\sin θ = \dfrac{O}{H}$ SOH

$\cos θ = \dfrac{A}{H}$ CAH

$\tan θ = \dfrac{O}{A}$ TOA

Find $\tan 40° = .84$

$\tan 55° = 1.43$

$\tan 70° = 2.75$

$\tan 30° = .58$

$\tan 25° = .47$

Find missing side
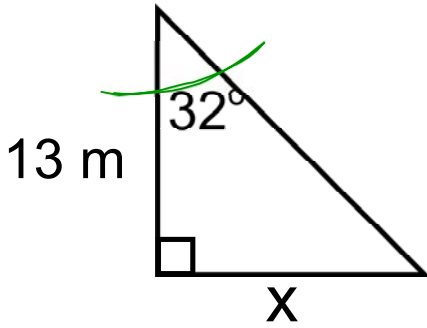
$\theta = 32°$
$O = X$
$A = 13$

$TAN\theta = \dfrac{O}{A}$

$13 \times TAN32 = \dfrac{X}{13} \cdot 13$

$13 \times (TAN32) =$
$8.12m$
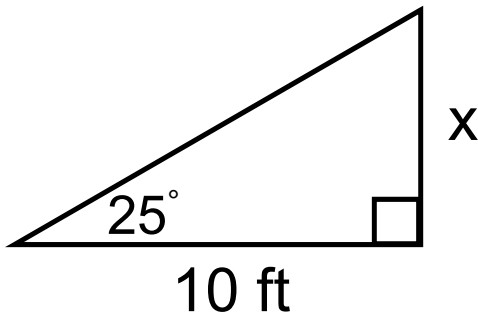
$\theta = 25°$
$O = X$
$A = 10$

$TAN\theta = \dfrac{O}{A}$

$10 \, TAN25 = \dfrac{X}{10} \cdot 10$

$10 \times (TAN25) =$

$4.66 \, ft$
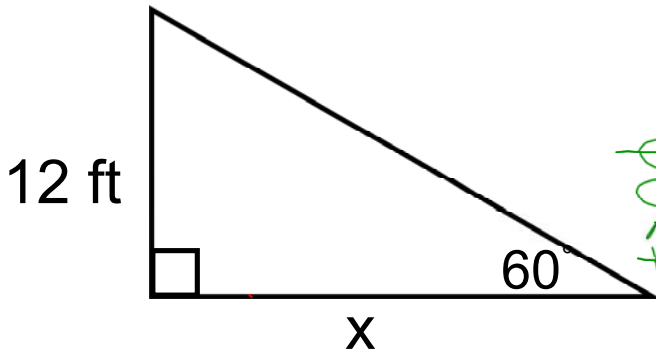
$\theta = 60°$
$O = 12$
$A = X$

$TAN\theta = \dfrac{O}{A}$

$TAN60 = \dfrac{12}{X}$

$X = \dfrac{12}{TAN60}$

$X = 6.93ft$
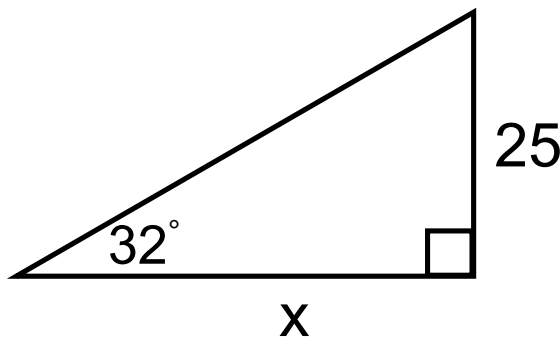
$\theta = 32$
$O = 25$
$A = X$

$TAN\theta = \dfrac{O}{A}$

$TAN32 = \dfrac{25}{X}$

$X = \dfrac{25}{TAN32}$

$X = 40$