

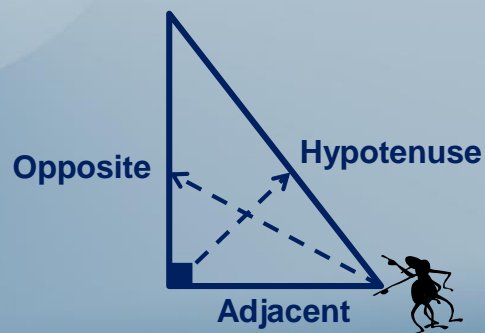
# Lesson 34

## Trigonometry

### *Trigonometric Ratios*

Right angle triangles have special ratios we can use to find:

- missing sides
- missing angles



## ***Trigonometric Ratios***

There are 3 trigonometric ratios:

Sine of an angle =  $\frac{\text{opposite side}}{\text{hypotenuse}}$

Cosine of an angle =  $\frac{\text{adjacent side}}{\text{hypotenuse}}$

Tangent of an angle =  $\frac{\text{opposite side}}{\text{adjacent side}}$

## ***Trigonometric Ratios***

Sine of an angle =  $\frac{\text{opposite side}}{\text{hypotenuse}}$

Cosine of an angle =  $\frac{\text{adjacent side}}{\text{hypotenuse}}$

Tangent of an angle =  $\frac{\text{opposite side}}{\text{adjacent side}}$

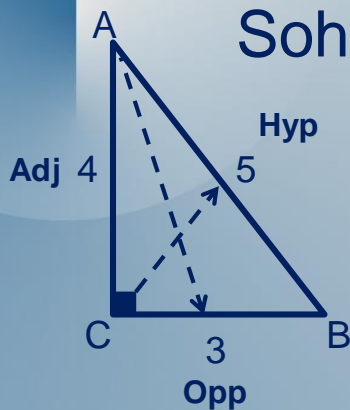
## Trigonometric Ratios

# Soh Cah Toa

## Trigonometric Ratios

Complete the trig ratios for the angle A:

# Soh Cah Toa



$$\sin A = \frac{3}{5}$$

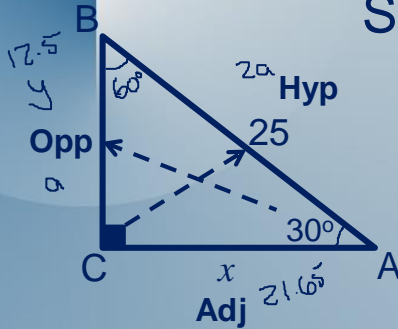
$$\cos A = \frac{4}{5}$$

$$\tan A = \frac{3}{4}$$

## Example

Ex. Find the value of  $x$ :

Soh Cah Toe



$$\cos(30^\circ) = \frac{x}{25}$$

$$\frac{\cos(30^\circ)}{1} = \frac{x}{25}$$

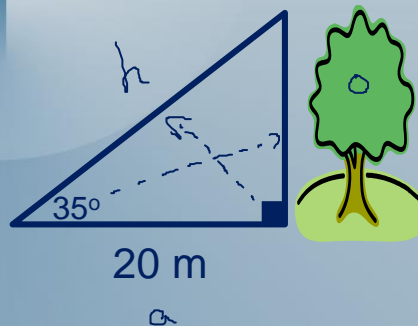
$$\cos(30^\circ) \times 25 = x$$

$$(0.86603)(25) = x$$

$$21.65 = x$$

## Trigonometric Ratios

What is the height of the tree?



$$\tan 35^\circ = \frac{x}{20}$$

$$x = 14\text{m}$$

# Homework

## Workbook

P. 228 #3

P. 230 #6

P. 231 #8

P. 232 #9-14