

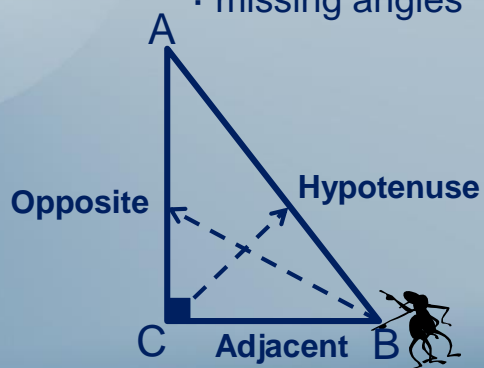
Lesson 14

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 = $\frac{\text{adjacent side}}{\text{hypotenuse}}$

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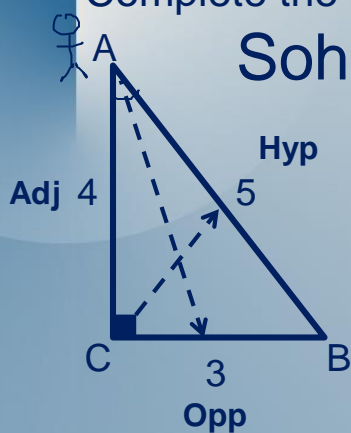
Trigonometric Ratios

Soh Cah Toa

Trigonometric Ratios

Complete the trig ratios for the angle A:

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

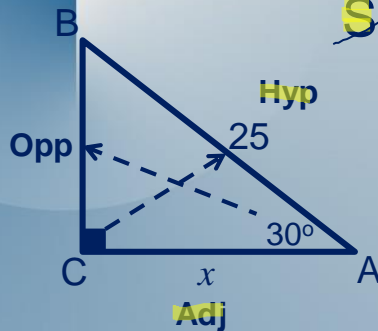
$$\cos A = \frac{4}{5}$$

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

Example

Ex. Find the value of x :

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

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

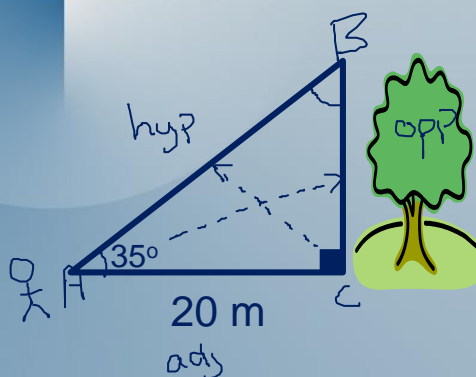
$$\cos(30^\circ) \times 25 = x$$

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

$$21.65 = x$$

Trigonometric Ratios

What is the height of the tree?



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$$\frac{\tan(35^\circ)}{1} = \frac{x}{20}$$

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

Homework

Textbook #2

P. 86 #3

P. 87 #8