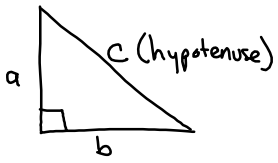
Unit 7: Trigonometry of Right Triangles

Wednesday, June 6, 2018 10:56 AM

7.1: Pythagorean Theorem * Use to solve for an unknown side when you have the other 2!

- Side c is always the hypotenuse (across from 90° angle)



- Use to solve for the hypotenuse (side c)
  - $a^2 + b^2 = c^2$
  - $\sqrt{(a^2+b^2)} = c$
- Use to solve for other sides (either a or b)
  - $a^2 = c^2 - b^2$ sides!
  - $a = \sqrt{(c^2 - b^2)}$

7.2: The Sine Ratio

- Think: SOH
  - $\boldsymbol{s}inA = \frac{\boldsymbol{o}pp}{\boldsymbol{h}yp}$

$sinA = \frac{x}{hyp}$ → $x = (sinA)\cdot(hyp)$ $\quad sinA = \frac{opp}{x}$ → $x = \frac{opp}{sinA}$

7.3: The Cosine Ratio

- Think: CAH
  - $\boldsymbol{c}osA = \frac{\boldsymbol{a}dj}{\boldsymbol{h}yp}$

7.4: The Tangent Ratio

- Think: TOA
  - $\boldsymbol{t}anA = \frac{\boldsymbol{o}pp}{\boldsymbol{a}dj}$

7.5: Finding Angles and Solving Right Triangles

- Determine which ratio to use based on SOH CAH TOA
- Set up the ratio: ie $sinA = \frac{opp}{hyp}$
- Inverse the ratio (fraction/decimal) to get the angle:

$$\angle A = sin^{-1}\frac{opp}{hyp}$$