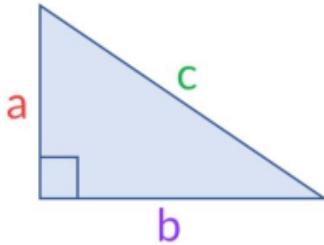


Pythagoras Theorem & Trigonometry Ratios

Pythagoras' Theorem

$$a^2 + b^2 = c^2$$



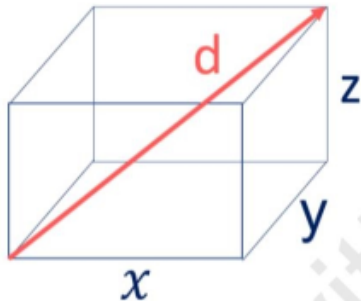
c is the hypotenuse

- It is the longest side
- It is always **opposite** the right angle

a and **b** are the two shorter sides

- They are always **adjacent** to the right angle

Pythagoras Theorem in 3D



$$d = \sqrt{x^2 + y^2 + z^2}$$

Trigonometric Ratios

- $\sin(\theta) = \frac{\text{Perpendicular}}{\text{Hypotenuse}}$ or $= \frac{\text{Opposite}}{\text{Hypotenuse}}$
- $\cos(\theta) = \frac{\text{Base}}{\text{Hypotenuse}}$ or $= \frac{\text{Adjacent}}{\text{Hypotenuse}}$
- $\tan(\theta) = \frac{\text{Perpendicular}}{\text{Base}}$ or $= \frac{\text{Opposite}}{\text{Adjacent}}$

