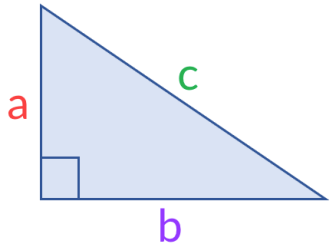
Pythagoras Theorem & Trigonometry Ratios

Pythagoras' Theorem

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



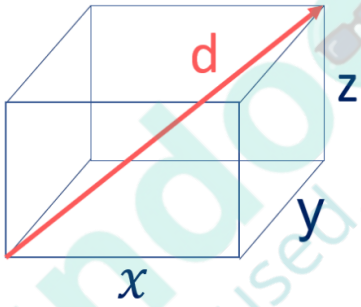
c is the **hypotenuse**

- 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

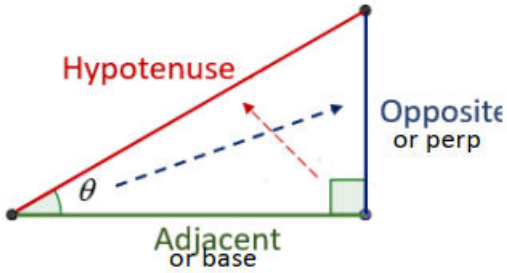
Pythagoras Theorem in 3D



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

Trigonometric Ratios

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



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