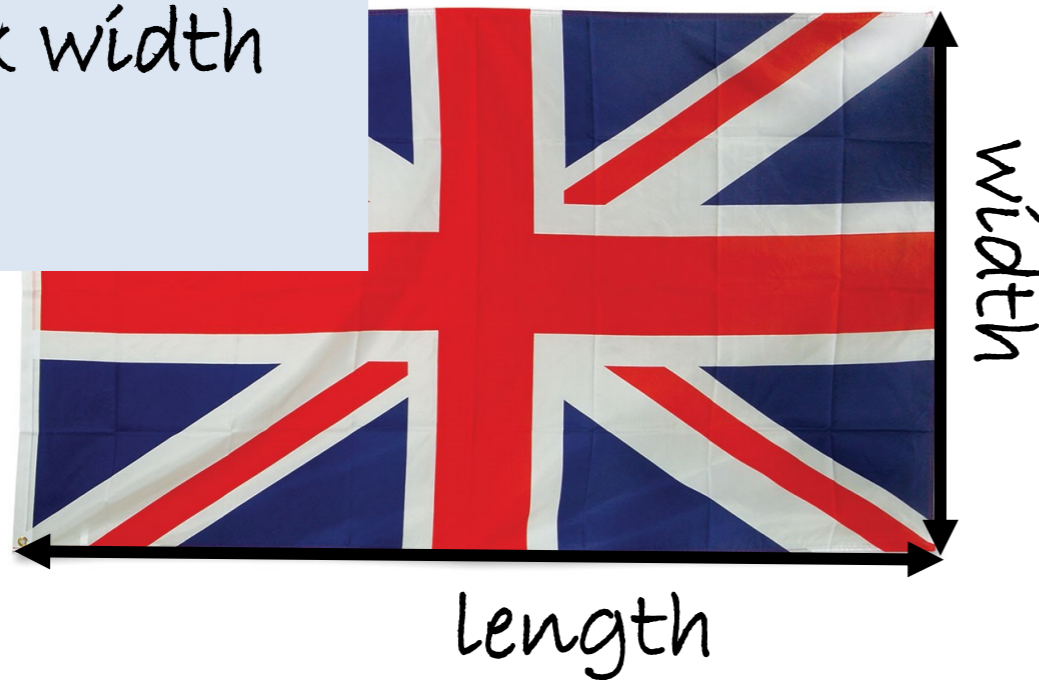


AREAS

Rectangle

= length x width

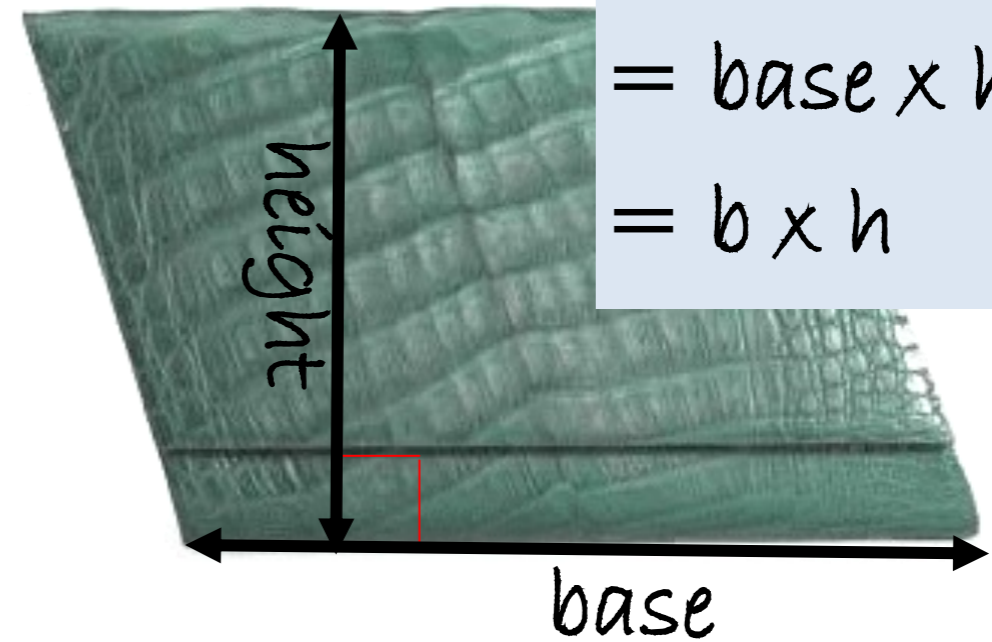
= $L \times W$



Parallelogram

= base x height

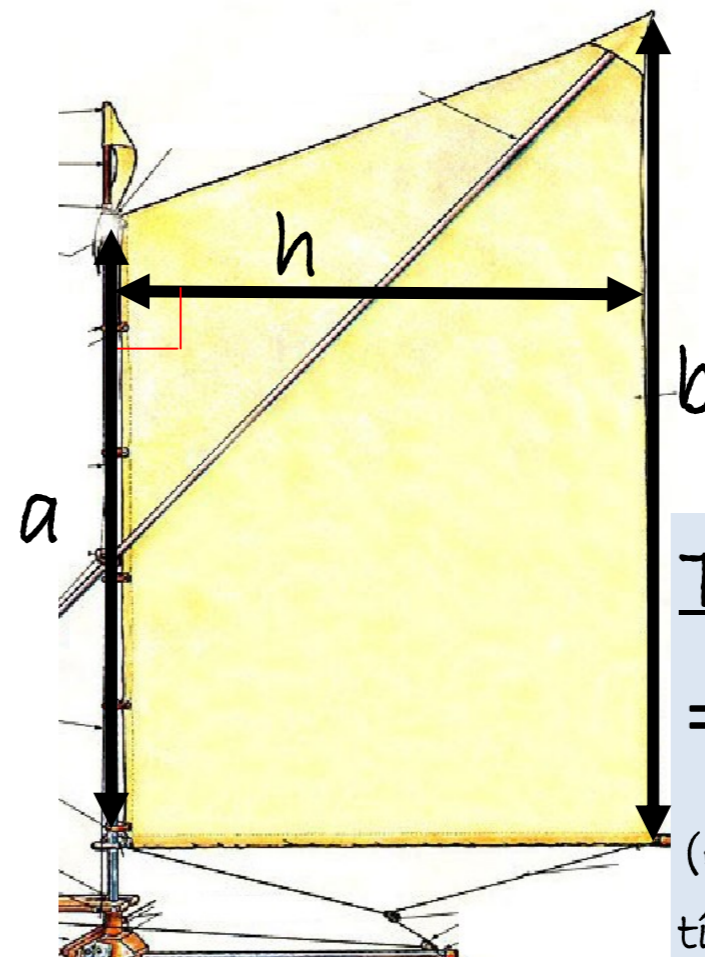
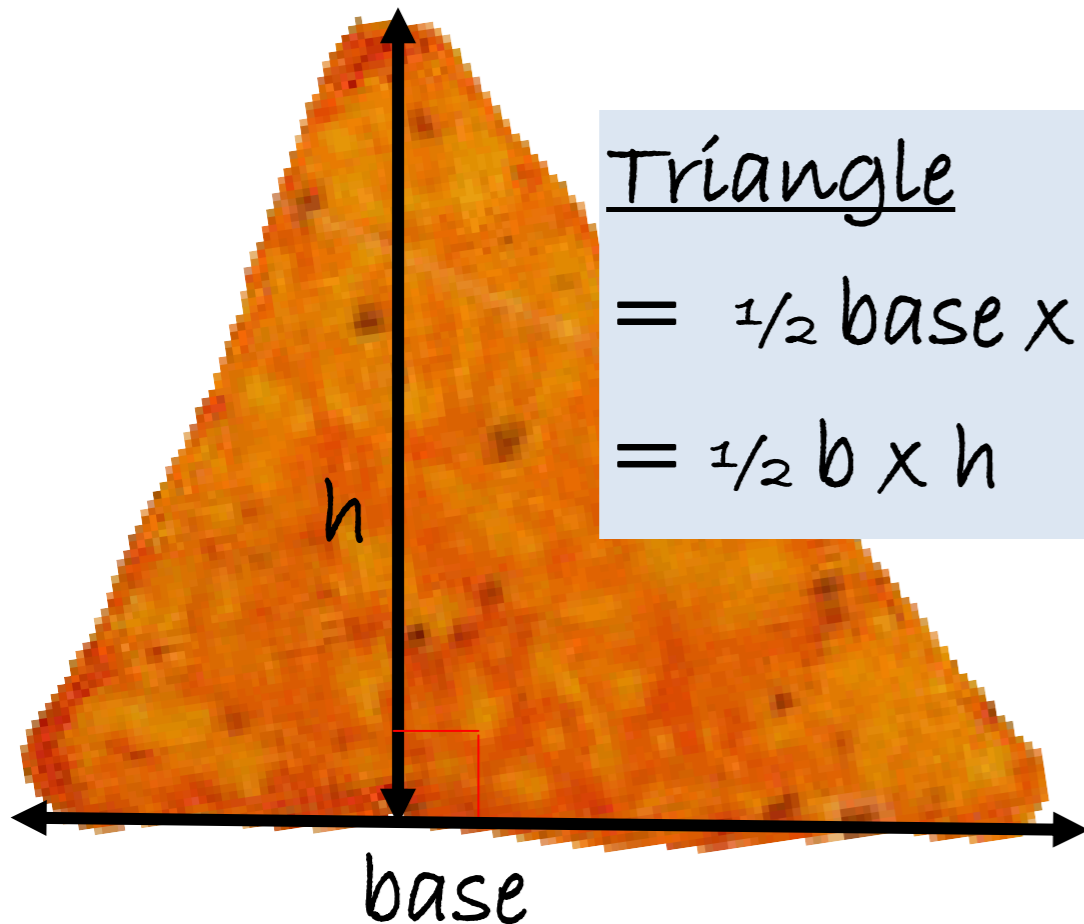
= $b \times h$



Triangle

= $\frac{1}{2}$ base x height

= $\frac{1}{2} b \times h$



Trapezium

= $\frac{1}{2}(a + b) \times h$

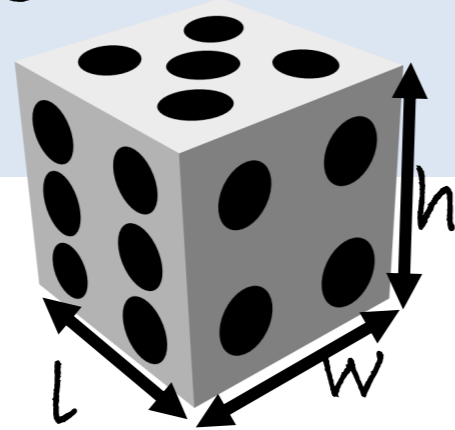
(Half the sum of the parallel sides, times the distance between them)

VOLUMES

Cuboid

= length x height x width

= $l \times h \times w$



Cross

section



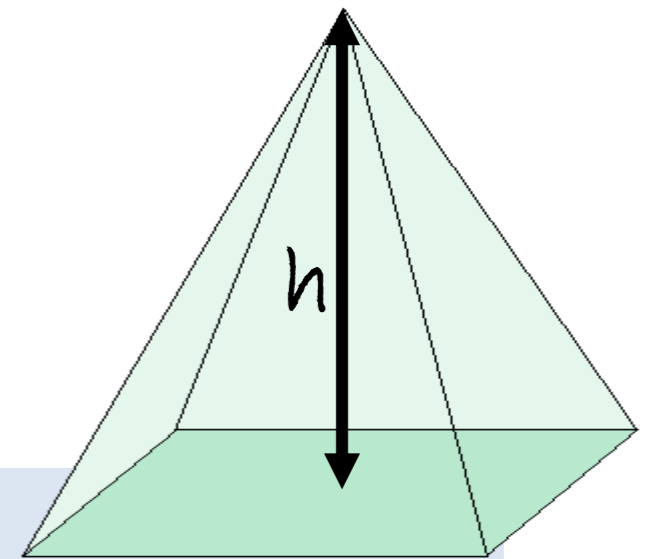
Prism

= Area of cross section x length

Cylinder

= $\pi \times \text{radius}^2 \times \text{height}$

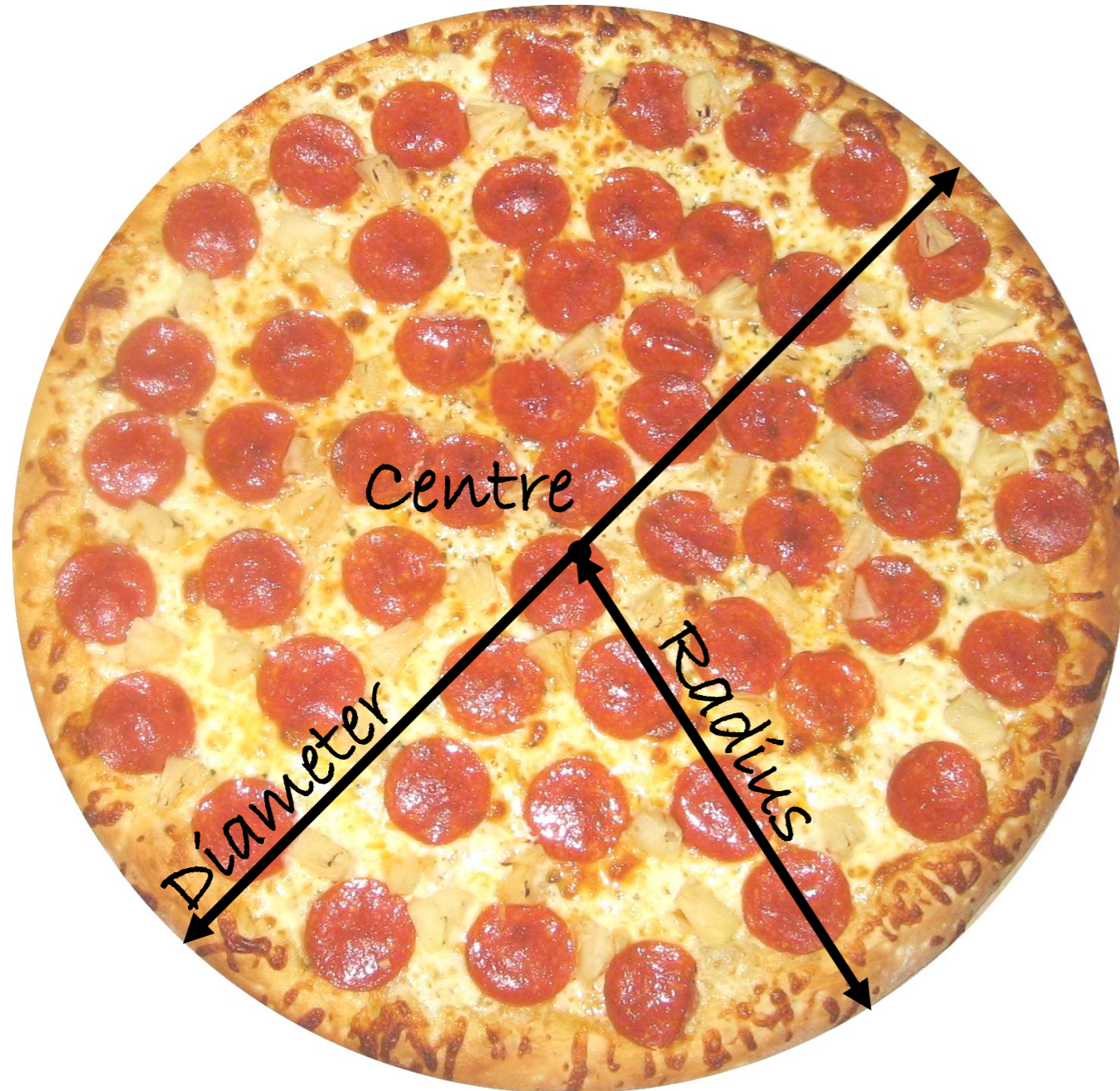
= $\pi r^2 \times h$



Pyramid

= $\frac{1}{3}$ area of base x height

CIRCLES



Circumference

$$= \pi \times \text{diameter} = \pi d$$

$$= 2\pi \times \text{radius} = 2\pi r$$

Area of a Circle

$$= \pi \times \text{radius squared}$$

$$= \pi r^2$$



Cherry Pies Delicious, Apple Pies Are Too

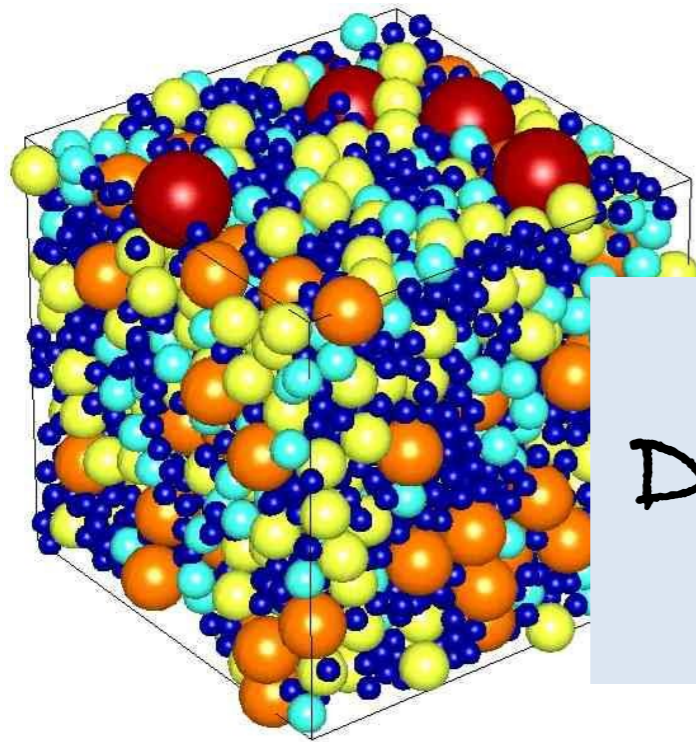


COMPOUND MEASURES

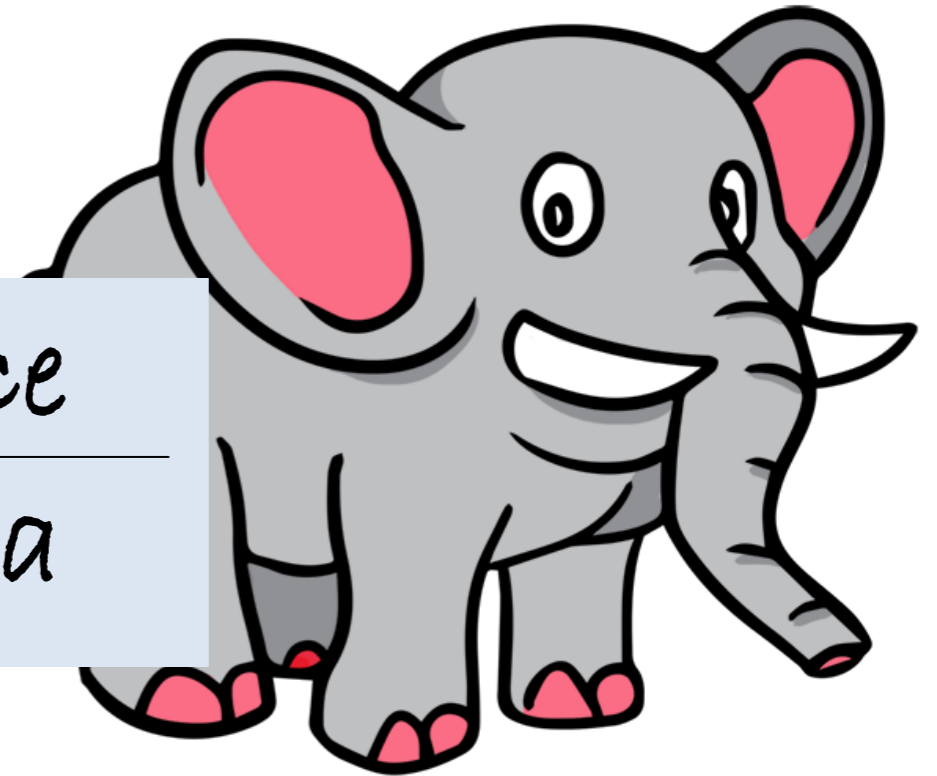


$$\text{Speed} = \frac{\text{distance}}{\text{time}}$$

$$\text{Pressure} = \frac{\text{force}}{\text{area}}$$



$$\text{Density} = \frac{\text{mass}}{\text{volume}}$$

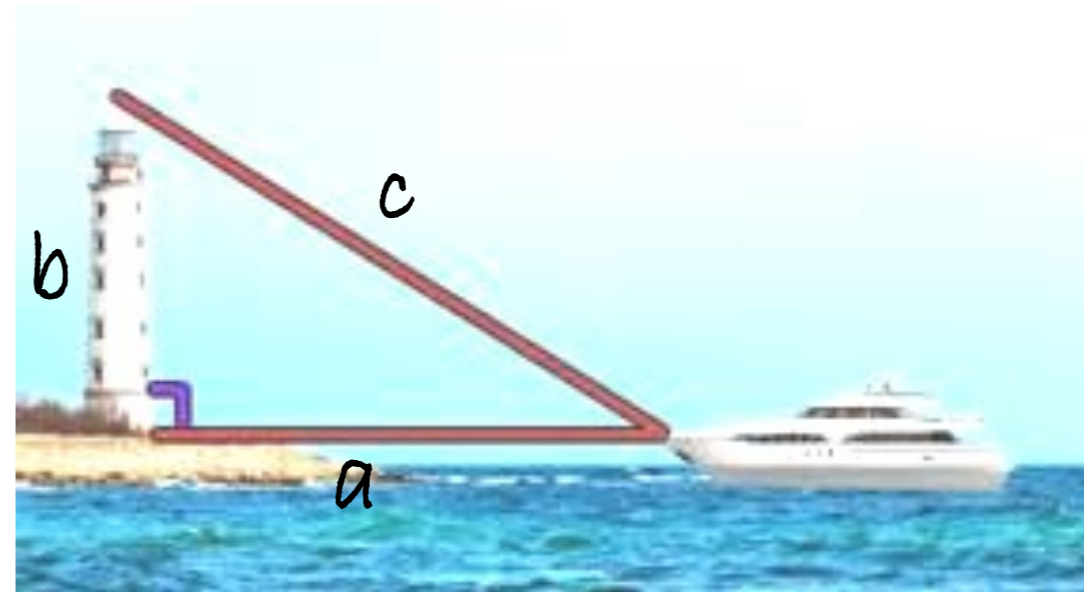


TRIANGLES

Pythagoras; Theorem

For right-angles triangles

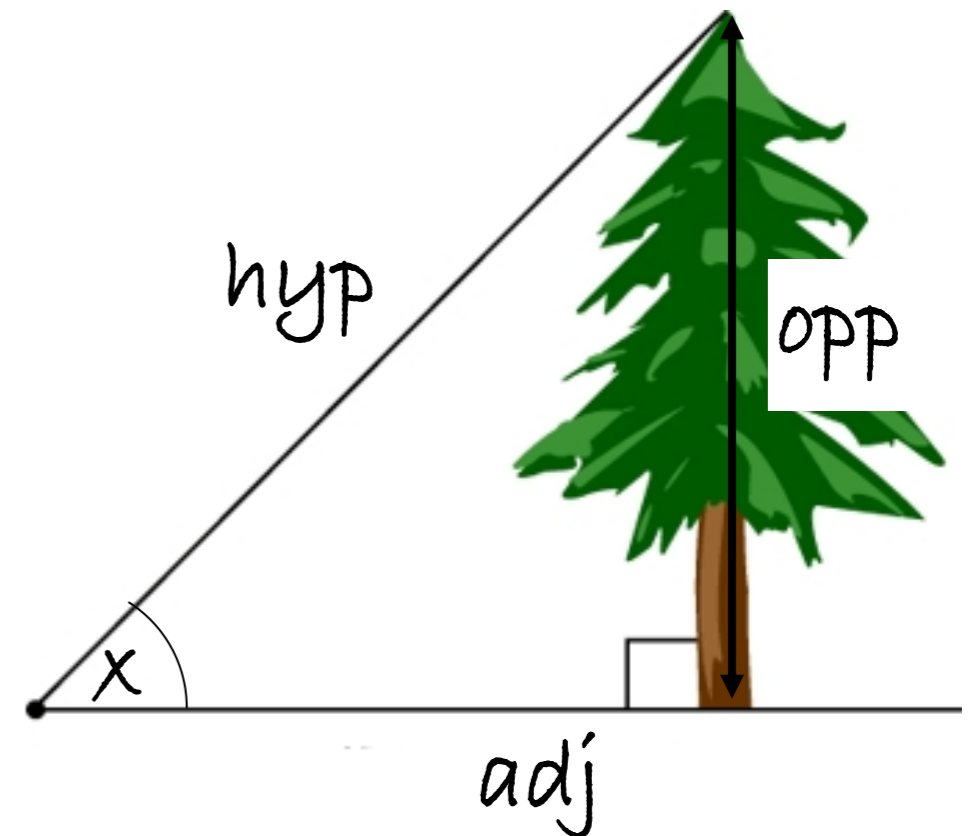
$$a^2 + b^2 = c^2$$



Trigonometric Ratios

$$\sin x = \frac{\text{opp}}{\text{hyp}} \quad \cos x = \frac{\text{adj}}{\text{hyp}}$$

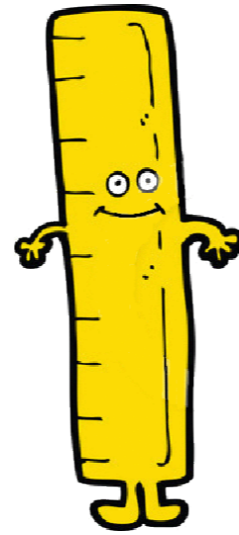
$$\tan x = \frac{\text{opp}}{\text{adj}}$$



FACTS



$$5 \text{ miles} = 8 \text{ km}$$



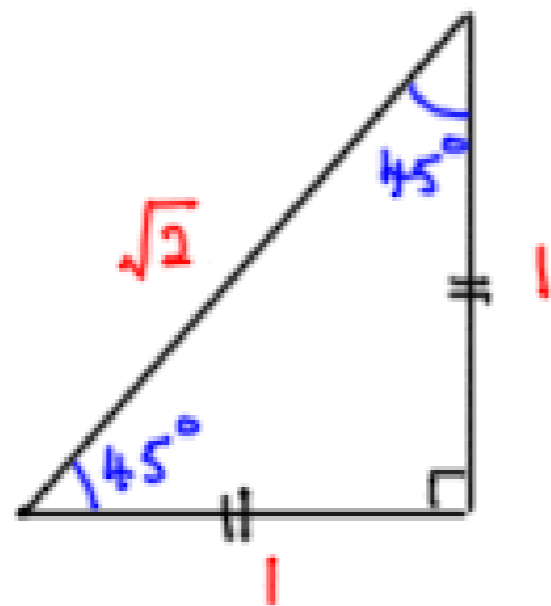
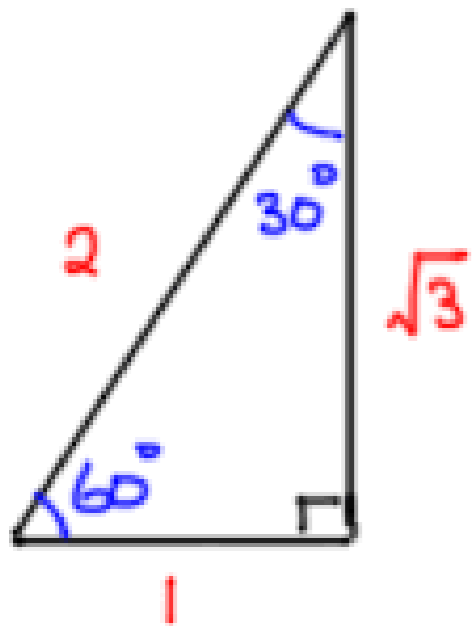
$$1 \text{ cm} = 10 \text{ mm}$$

$$1 \text{ m} = 100 \text{ cm} = 1000 \text{ mm}$$

$$1 \text{ km} = 1000 \text{ m} = 1000000 \text{ mm}$$



Trigonometric values



$$\sin 0^\circ = 0$$

$$\sin 30^\circ = 1/2$$

$$\sin 90^\circ = 1$$

$$\sin 45^\circ = 1/\sqrt{2}$$

$$\sin 60^\circ = \sqrt{3}/2$$

$$\cos 0^\circ = 1$$

$$\cos 60^\circ = 1/2$$

$$\cos 90^\circ = 0$$

$$\cos 30^\circ = \sqrt{3}/2$$

$$\cos 45^\circ = 1/\sqrt{2}$$

$$\tan 0^\circ = 0$$

$$\tan 45^\circ = 1$$

$$\tan 30^\circ = 1/\sqrt{3}$$

$$\tan 60^\circ = \sqrt{3}$$

TRIANGLES

Trigonometric Ratios

Sine rule

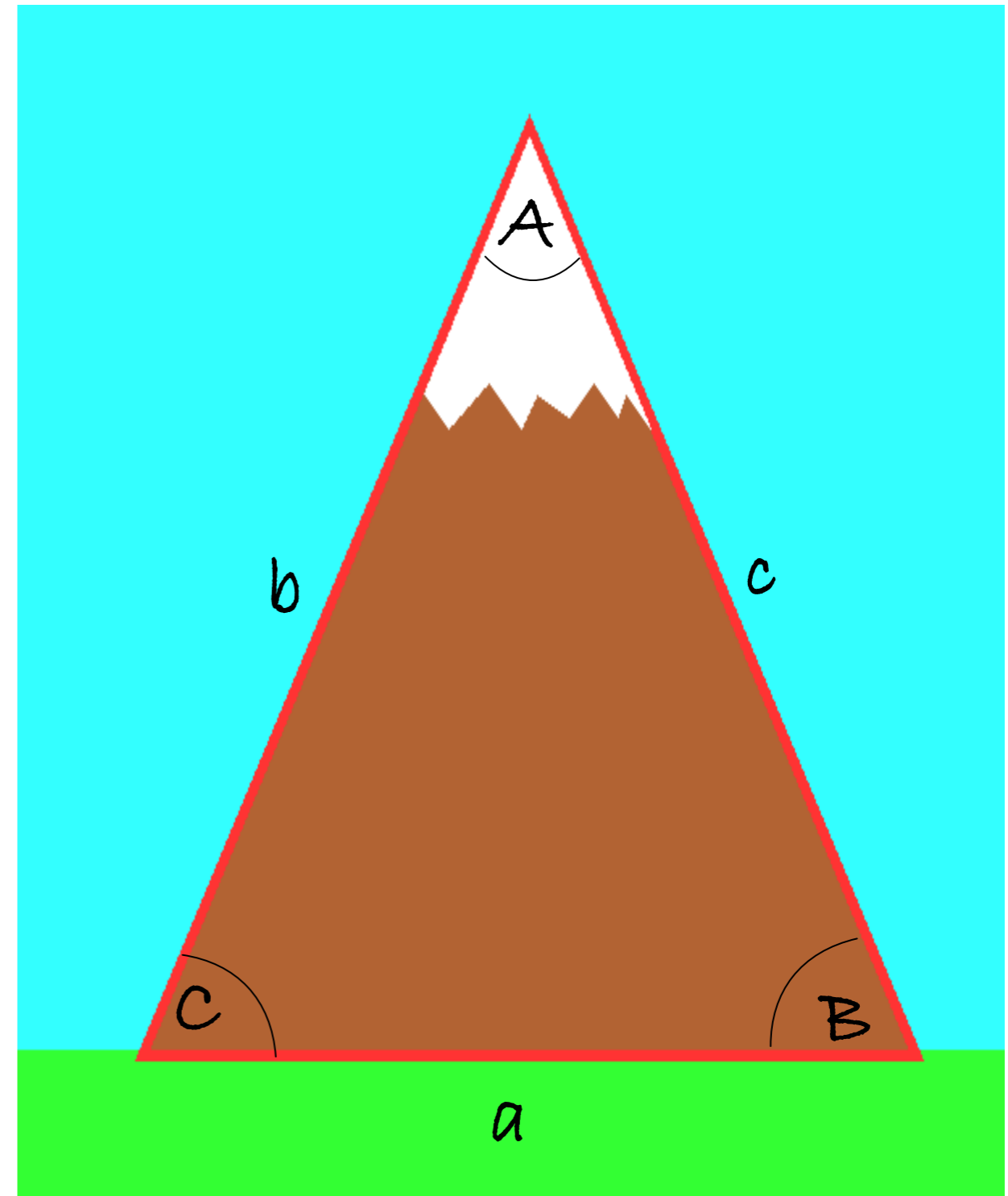
$$\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$$

Cosine rule

$$a^2 = b^2 + c^2 - 2bc \cos A$$

Area of triangle

$$= \frac{1}{2} ab \sin C$$



THE QUADRATIC EQUATION

The solutions of $ax^2 + bx + c = 0$, where $a \neq 0$, are given by:

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

