

# Numeracy4All Tips

## Shape, Space and Measure

### Conversions

10 mm = 1cm  
100cm = 1m  
1000m = 1km

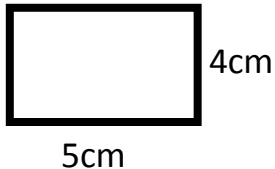
60 Seconds = 1 Minute  
60 Minutes = 1 Hour  
24 Hours = 1 Day

1000g = 1kg  
1000ml = 1l

12 Months in 1 Year

### Perimeter

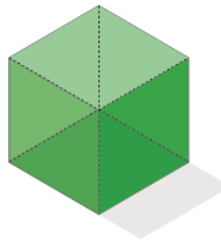
Is the outside of a shape. Add the edges together.



$$P = 5+4+5+4=18\text{cm}$$

### Nets

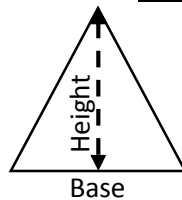
Unfolded  
3D shapes



Cube

### Area

Is the inside of a shape.  
Area of **Rectangle** = length  $\times$  width

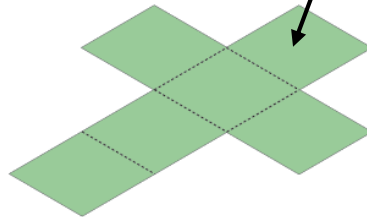


$$\text{Area of Triangle} = \frac{1}{2} \times \text{base} \times \text{height}$$

### Surface Area

The area of each face added together.

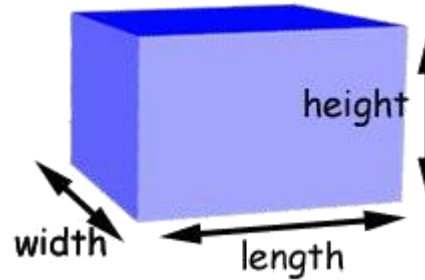
Face



Net of a cube

### Volume

$$\text{volume} = \text{length} \times \text{width} \times \text{height}$$

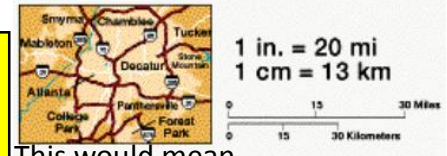


### Enlargement

Scale Factor (S.f.) is what you multiply every length by.  
S.f. of 2 – double each length  
S.f. of 3 – multiply each length by 3  
S.f. of  $\frac{1}{2}$  - half each length

### Scales

Multiply the length you measure by the appropriate miles or km



This would mean

$$2\text{cm} = 26\text{km} \quad 10\text{inches} = 200\text{miles}$$



## Algebra

$$ab = a \times b$$

$$a^2 = a \times a$$

$$\frac{a}{b} = a \div b$$

### Substitution into formulas

Swap the letters for the numbers you know.

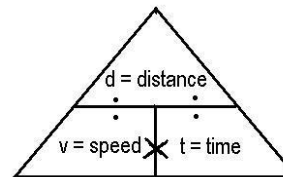
E.g. If  $x = 3$  what is  $y$  when  $y = 2x + 4$

$$y = (2 \times 3) + 4$$

$$y = 6 + 4$$

$$y = 10$$

### Speed, Distance and Time Formulas



$$\text{Speed} = \text{Distance} \div \text{Time}$$

$$\text{Time} = \text{Distance} \div \text{Speed}$$

$$\text{Distance} = \text{Speed} \times \text{Time}$$