

Rectangle*Area of Rectangle*

$$Area_{rectangle} = width * height \quad (1)$$

Perimeter of a Rectangle Is the sum of the 4 sides

$$Perimeter_{Rectangle} = 2(width + height) \quad (2)$$

Angles of a Four sided figure

$$Sum\ of\ Angles\ of\ any\ Four\ sided\ figure = 360^\circ \quad (3)$$

Triangles*Angles of a Triangle*

$$Sum\ of\ Angles\ of\ a\ Triangle = 180^\circ \quad (4)$$

Area of a Triangle

$$Area_{Triangle} = \frac{base}{2} * PerpendicularHeight \quad (5)$$

Pythagoras Theorem

$$h^2 = a^2 + b^2 \text{ so } h = \sqrt{a^2 + b^2} \quad (6)$$

Circles*Area of a Circle*

$$Area_{Circle} = \pi r^2 \quad (7)$$

Circumference of a Circle

$$Circumference_{Circle} = 2\pi r \quad (8)$$

Sectors of a Circle*Area of a Sector of a Circle*

$$Area_{Sector\ of\ a\ Circle} = \left(\frac{Angle}{360} \right) \pi r^2 \quad (9)$$

Circumference of a Sector of a Circle

$$Circumference_{Sector\ of\ a\ Circle} = \left(\frac{Angle}{360} \right) 2\pi r \quad (10)$$

Rectangular Box

$$Volume_{box} = width * height * depth \quad (11)$$

$$Surface\ Area_{box} = 2(width * height) + 2(width * depth) + 2(height * depth) \quad (12)$$

Cylinder

$$Volume_{Cylinder} = h\pi r^2 \quad (13)$$

$$Surface\ Area_{Cylinder} = 2\pi rh + 2(\pi r^2) \quad (14)$$

Slope of a Line*Using the Equation*

$$y = mx + B \quad (15)$$

Using Co-ordinates (x_1, y_1) and (x_2, y_2)

$$m = \frac{(y_2 - y_1)}{(x_2 - x_1)} \quad (16)$$

Length of a Line with co-ordinates (x_1, y_1) and (x_2, y_2)

$$h = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2} \quad (17)$$

Factoring Is often recognising patterns

$$a^2 + 2ab + b^2 = (a + b)(a + b) = (a + b)^2$$

$$a^2 - 2ab + b^2 = (a - b)(a - b) = (a - b)^2$$

$$a^2 - b^2 = (a + b)(a - b)$$

Quadratic Formula Solve the equation by using the *Quadratic Formula* So for $ax^2 + bx + c = 0$

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a} \quad (18)$$