

# Geometry Formulas Cheat Sheet

smartclass4kids

Area, perimeter, circumference & volume - a handy reference for kids

## 2D Shapes - Area & Perimeter

<b>Square</b>	Area = $s \times s$	Perimeter = $4 \times s$
<b>Rectangle</b>	Area = $l \times w$	Perimeter = $2(l + w)$
<b>Triangle</b>	Area = $1/2 \times b \times h$	
<b>Parallelogram</b>	Area = $b \times h$	
<b>Trapezoid</b>	Area = $1/2 (a + b) \times h$	
<b>Rhombus</b>	Area = $1/2 \times d1 \times d2$	

## Circle

<b>Area</b>	$A = \pi \times r \times r$
<b>Circumference</b>	$C = 2 \times \pi \times r$
<b>Diameter</b>	$d = 2 \times r$
<b>Use pi</b>	$\pi = 3.14$ (approx)

## 3D Shapes - Volume

<b>Cube</b>	$V = s \times s \times s$
<b>Rectangular Prism</b>	$V = l \times w \times h$
<b>Cylinder</b>	$V = \pi \times r \times r \times h$
<b>Cone</b>	$V = 1/3 \times \pi \times r \times r \times h$
<b>Sphere</b>	$V = 4/3 \times \pi \times r \times r \times r$
<b>Pyramid</b>	$V = 1/3 \times \text{base area} \times h$

## 3D Shapes - Surface Area

<b>Cube</b>	$SA = 6 \times s \times s$
<b>Rect. Prism</b>	$SA = 2(lw + lh + wh)$
<b>Cylinder</b>	$SA = 2 \pi r(r + h)$
<b>Sphere</b>	$SA = 4 \times \pi \times r \times r$

## What the Letters Mean

<b>s = side</b>	$l = \text{length}$	$w = \text{width}$
<b>h = height</b>	$b = \text{base}$	$r = \text{radius}$
<b>d = diameter</b>	$d1, d2 = \text{diagonals}$	
<b>pi = 3.14</b>	$a, b = \text{parallel sides}$	

## Quick Tips

- \* Area is measured in square units (cm<sup>2</sup>, m<sup>2</sup>).
- \* Volume is measured in cubic units (cm<sup>3</sup>, m<sup>3</sup>).
- \* Perimeter is the distance all the way around.
- \* Always use the same units before you calculate.