

## FORMULAS

Description	Formula
Sum of the measures of the interior angles in a polygon	$S = (n - 2) \times 180$
Circumference of a circle	$C = 2\pi r$
Area of a circle	$A = \pi r^2$
Area of a triangle	$A = \frac{1}{2}bh$
Surface area of a sphere	$A = 4\pi r^2$
Lateral surface area of a right circular cone	$A = \pi r\sqrt{r^2 + h^2}$
Surface area of a cylinder	$A = 2\pi rh + 2\pi r^2$
Volume of a sphere	$V = \frac{4}{3}\pi r^3$
Volume of a right circular cone and a pyramid	$V = \frac{1}{3}Bh$
Volume of a cylinder	$V = \pi r^2 h$
Sum of an arithmetic series	$S_n = \frac{n}{2}[2a + (n - 1)d] = n\left(\frac{a + a_n}{2}\right)$
Sum of a geometric series	$S_n = \frac{a(1 - r^n)}{1 - r}$
Sum of an infinite geometric series	$\sum_{n=0}^{\infty} ar^n = \frac{a}{1 - r},  r  < 1$
Distance formula	$d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$
Midpoint formula	$\left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2}\right)$
Slope	$m = \frac{\Delta y}{\Delta x} = \frac{y_2 - y_1}{x_2 - x_1}$
Law of sines	$\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$

## FORMULAS (continued)

Description	Formula
Law of cosines	$c^2 = a^2 + b^2 - 2ab \cos C$
Arc length	$s = r\theta$
Density of an object	$D = \frac{m}{V}$
Quadratic formula	$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$
Compound interest	$A = P \left( 1 + \frac{r}{n} \right)^{nt}$