

# Mathematics Formula for Class XII CBSE: A Complete Guide for Students

Mathematics is an essential subject for students of all ages, and Class XII CBSE students are no exception. In order to excel in mathematics, it is important to have a strong understanding of the basic concepts and formulas. This article provides a comprehensive list of all the essential mathematics formulas for Class XII CBSE students, covering everything from algebra to calculus, geometry to trigonometry.



## Mathematics Formula For Class XII (CBSE) by David Dobbs

★★★★☆ 4.9 out of 5

Language	: English
File size	: 3676 KB
Text-to-Speech	: Enabled
Screen Reader	: Supported
Enhanced typesetting	: Enabled
Print length	: 110 pages
Lending	: Enabled



## Algebra

- **Linear equations in one variable:**  $ax + b = 0$
- **Linear equations in two variables:**  $ax + by = c$
- **Quadratic equations:**  $ax^2 + bx + c = 0$
- **Polynomials:**  $f(x) = a_nx^n + a_{n-1}x^{n-1} + \dots + a_1x + a_0$

- **Binomial theorem:**  $(a + b)^n = a^n + nC_1a^{n-1}b + nC_2a^{n-2}b^2 + \dots + b^n$
- **Logarithms:**  $\log_a(x) = y$
- **Exponential functions:**  $y = a^x$

## Calculus

- **Limits:**  $\lim_{x \rightarrow a} f(x) = L$
- **Derivatives:**  $f'(x) = \lim_{h \rightarrow 0} \frac{f(x+h) - f(x)}{h}$
- **Integrals:**  $\int f(x) dx = F(x) + C$
- **Product rule:**  $(f(x)g(x))' = f'(x)g(x) + f(x)g'(x)$
- **Quotient rule:**  $(f(x)/g(x))' = \frac{f'(x)g(x) - f(x)g'(x)}{[g(x)]^2}$
- **Chain rule:**  $(f(g(x)))' = f'(g(x))g'(x)$

## Geometry

- **Area of a triangle:**  $A = \frac{1}{2}bh$
- **Area of a circle:**  $A = \pi r^2$
- **Volume of a sphere:**  $V = \frac{4}{3}\pi r^3$
- **Pythagorean theorem:**  $a^2 + b^2 = c^2$
- **Sine rule:**  $\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$
- **Cosine rule:**  $c^2 = a^2 + b^2 - 2ab\cos C$

## Trigonometry

- **Sine function:**  $\sin\theta = \frac{\text{opposite}}{\text{hypotenuse}}$

- **Cosine function:**  $\cos\theta = \text{adjacent/hypotenuse}$
- **Tangent function:**  $\tan\theta = \text{opposite/adjacent}$
- **Pythagorean identity:**  $\sin^2\theta + \cos^2\theta = 1$
- **Double-angle formulas:**  $\sin 2\theta = 2\sin\theta\cos\theta$ ,  $\cos 2\theta = \cos^2\theta - \sin^2\theta$ ,  $\tan 2\theta = 2\tan\theta/(1 - \tan^2\theta)$
- **Half-angle formulas:**  $\sin(\theta/2) = \pm\sqrt{[(1 - \cos\theta)/2]}$ ,  $\cos(\theta/2) = \pm\sqrt{[(1 + \cos\theta)/2]}$ ,  $\tan(\theta/2) = \pm\sqrt{[(1 - \cos\theta)/(1 + \cos\theta)]}$

These are just a few of the essential mathematics formulas that Class XII CBSE students need to know. By studying these formulas and practicing them regularly, students can improve their understanding of mathematics and prepare for their board exams and beyond.

### Additional Resources

- [CBSE Official Website](#)
- [NCERT Official Website](#)
- [Khan Academy Algebra II](#)
- [Khan Academy Calculus I](#)
- [Khan Academy Geometry](#)
- [Khan Academy Trigonometry](#)

### Mathematics Formula For Class XII (CBSE) by David Dobbs

★★★★★ 4.9 out of 5

Language : English  
 File size : 3676 KB  
 Text-to-Speech : Enabled  
 Screen Reader : Supported

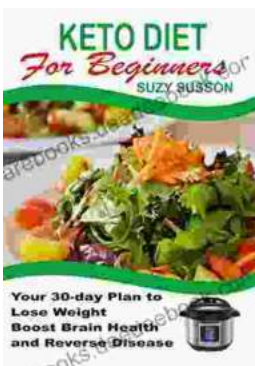


Enhanced typesetting : Enabled  
Print length : 110 pages  
Lending : Enabled



## The Complete Guide for Startups: How to Get Investors to Say Yes

Are you a startup founder looking to raise funding from investors? If so, then you need to read this guide. We'll cover everything you need to know...



## Your 30 Day Plan To Lose Weight, Boost Brain Health And Reverse Disease

Are you tired of feeling tired, overweight, and unhealthy? Do you wish there was a way to lose weight, boost your brain health, and reverse disease without having to...