

List Of Maths Formulas For Class 9th CBSE

Formula sheet for class 9th:

Algebraic Formula:

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

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

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

4. $(x + a)(x + b) = x^2 + (a + b)x + ab$

5. $(x + a)(x - b) = x^2 + (a - b)x - ab$

6. $(x - a)(x + b) = x^2 + (b - a)x - ab$

7. $(x - a)(x - b) = x^2 - (a + b)x + ab$

8. $(a + b)^3 = a^3 + b^3 + 3ab(a + b)$

9. $(a - b)^3 = a^3 - b^3 - 3ab(a - b)$

$$10. (x + y + z)^2 = x^2 + y^2 + z^2 + 2xy + 2yz + 2xz$$

$$11. (x + y - z)^2 = x^2 + y^2 + z^2 + 2xy - 2yz - 2xz$$

$$12. (x - y + z)^2 = x^2 + y^2 + z^2 - 2xy - 2yz + 2xz$$

$$13. (x - y - z)^2 = x^2 + y^2 + z^2 - 2xy + 2yz - 2xz$$

$$14. x^3 + y^3 + z^3 - 3xyz = (x + y + z)(x^2 + y^2 + z^2 - xy - yz - xz)$$

$$15. x^2 + y^2 = 1212 [(x + y)^2 + (x - y)^2]$$

$$16. (x + a)(x + b)(x + c) = x^3 + (a + b + c)x^2 + (ab + bc + ca)x + abc$$

$$17. x^3 + y^3 = (x + y)(x^2 - xy + y^2)$$

$$18. x^3 - y^3 = (x - y)(x^2 + xy + y^2)$$

$$19. x^2 + y^2 + z^2 - xy - yz - zx = 1212 [(x-y)^2 + (y-z)^2 + (z-x)^2]$$

Pythagorean Theorem:

$$a^2 + b^2 = c^2$$

Distance formula:

- $d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$
- Slope of a line $m = \frac{y_2 - y_1}{x_2 - x_1}$
- Midpoint Formula : $(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2})$
- Slope of an Equation $y = mx + b$

Quadratic Equation:

- Quadratic Equation: $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$
- Standard form of equation $ax^2 + bx + c = 0$

Geometry Shapes Formulas for Class 9

Geometric Figure	Area	Perimeter
Rectangle	$A = l \times w$	$P = 2(l + w)$
Triangle	$A = \frac{1}{2}bh$	$P = a + b + c$
Trapezoid	$A = \frac{1}{2}h(b_1 + b_2)$	$P = a + b + c + d$
Parallelogram	$A = bh$	$P = 2(b + h)$
Circle	$A = \pi r^2$	$C = 2\pi r$