

Grade 9 Mathematics

Revision Workshop on 4th June 2026

1. Simplify the following algebraic expressions:

a. $2x + 3y - 9x + y$

b. $3x^2y \times -2x^3y^5$

c. $3a^2b + 5b^2a - 4ba^2 + 6ab^2$

d. $3xy + 2x(5y)$

e. $4x^2 + \frac{10x^3}{5x}$

f. $4(x + 1)$

g. $3x(x - 2) - 2(x - 1)$

h. $\frac{12x + 20}{4}$

i. $2x - (x - 5) + \frac{4x + 8}{2}$

j. $2x(x^2 - 3) + 5x^2(x - 1)$



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inspired by the love of Christ
no faith and its opposite

Quick reminder on multiplying polynomials (more than one term) by one another

2. Simplify the following algebraic expressions:

a. $(x + 2)(x + 5)$

b. $(x + 3)(x - 6)$

c. $2(x + 1)(x + 6)$

d. $(2x + 3)(2x - 3)$

e. $(x + 3)^2$

f. $(x + 3)(x - 5) - (x + 1)^2$

g. $2(x + 1)^2 - (x - 2)(x + 5)$

h. $(a + b)(c + d + e)$

i. $(x + 2)(x^2 - 2x + 4)$

j. $(a + b)^3$

A quick reminder about factorising!

- Highest common factor
- Grouping
- Difference Of Two Squares (D.O.T.S.)
- Trinomial

3. Factorise the following fully:

a. $3ax + 9ab$

b. $12x^2y^3 + 4x^2y + 20x^3y^2$

c. $4(x + 3) + b(3 + x)$

d. $3a + 6 + ax + 2a$

e. $4(g - 2) + 3c(2 - g)$

f. $2a + ag + 10 + 5g + rg + 2r$

g. $2x - 6 + 3a - xa$

h. $3(g - e) - b(e - g)$

i. $x^2 - u^2$

j. $3b^2 - 12$

k. $x^4 - 1$

l. $2b^2 - 200$

m. $x^2 - 9 + 3a - ax$

n. $5g^4c - 80c$

o. $x^2 + 7x + 6$

p. $x^2 - 4x + 3$

q. $g^2 - 2g - 8$

r. $h^2 + 2h - 8$

s. $x^2 - 3x - 10$

t. $2x^2 + 2x - 12$

u. $2x^2 + 2x - 12$

v. $ab^2 - ab - 90a$

w. $g^2 - 7g - 18$

x. $3x^2 + 15x - 72$

y. $b^2 - 11b + 24$

z. $16a - ax^2 + x^2 - 2x - 8$

4. Simplify the following fractions:

a. $\frac{x^2 - x - 12}{2x^2 - 18}$

b. $\frac{6 - 3x}{x^2 - 9}$

c. $\frac{ax + 2a + 2b + bx}{a^2 - b^2}$

d. $\frac{x^2 - 4}{4 - 2x}$

Solve the following equations:

a. $3x + 2 = 23$

b. $4x + 7 = 2x + 21$

c. $3(x + 2) + 6 = 27$

d. $3x + 5 = 2x + 7 + x$

e. $\frac{x}{3} + 5 = x - 3$

f. $2(x + 2) + 3 = 2x + 7$

g. $\frac{2x + 1}{3} + \frac{x}{2} = x + 1$

h. $x^2 + 5x - 50 = 0$

i. $x^2 - 7x = -10$

j. $(x + 2)(x - 3) = 6$