

PROGRESSIVE OVERLOAD ALGEBRA

SIMPLIFY	Simplify $2x + 3y + 6x + 7y$	Simplify: $3a + 4b + 5a - 6b$	Simplify: $9a - 4b - 8a + 6b$	Simplify: $y^3 + y^3 + y^3$	Simplify: $2b^2 + 2b^2 + 2b^2$	Simplify: $3ab + 5ab - 2ab$	Simplify: $y^3 \times y^3 \times y^3$	Simplify: $2y^3 \times 3y^2$	Simplify: $(2y^3)^2$
EXPAND	Expand: $4(2x + 5)$	Expand: $3(4p - 5)$	Expand: $4(5 - 10p)$	Expand: $3x(2x-5)$	Expand: $4m(2-5m)$	Expand: $4(2x+5) + 2(3x + 1)$	Expand: $3(2x+3) + 2(4x - 3)$	Expand: $4(5x+5) - 3(2x + 4)$	Expand: $5(3x+4) - 4(2x - 3)$
EXPAND	Expand: $(x+3)(x+4)$	Expand: $(x+9)(x-2)$	Expand: $(x-3)(x+7)$	Expand: $(x-4)(x-6)$	Expand: $(2x+3)(x+4)$	Expand: $(2x+3)(x-5)$	Expand: $(3x-4)(x-2)$	Expand: $(3x+2)(2x-4)$	Expand: $(3x-4)(3x-5)$
FACTORISE	Factorise: $3x + 12$	Factorise: $10 - 35m$	Factorise fully: $24p + 8$	Factorise fully: $4x + 12x^2$	Factorise fully: $6m^2 - 15m$	Factorise fully: $10x^2 - 15xy$	Factorise fully: $14x^2y + 35y$	Factorise fully: $18x^2y - 30xy^2$	Factorise fully: $6a^2b - 15ab^2 + 9a$
FACTORISE	Factorise: $x^2 + 10x + 21$	Factorise: $x^2 + 9x + 20$	Factorise: $x^2 - 11x + 30$	Factorise: $x^2 - 6x + 9$	Factorise: $x^2 - 81$	Factorise: $x^2 - 100$	Factorise: $x^2 + 2x - 24$	Factorise: $x^2 - 5x - 36$	Factorise: $x^2 - x - 56$
SOLVE	Solve: $4x = 10$	Solve: $\frac{x}{3} = 1\frac{1}{2}$	Solve: $6x + 3 = 27$	Solve: $5x - 4 = 5$	Solve: $4x + 3 > 31$	Solve: $2x + 3 < 14$	Solve: $9x - 1 = 5x + 1$	Solve: $3x + 5 = 5x - 8$	Solve: $6x + 2 = 4x + 7$
SOLVE	Solve: $x^2 + 5x + 6 = 0$	Solve: $x^2 + 7x + 6 = 0$	Solve: $x^2 - 5x + 6 = 0$	Solve: $x^2 - 9x + 20 = 0$	Solve: $x^2 - 25 = 0$	Solve: $x^2 - 1 = 0$	Solve: $x^2 - 5x - 14 = 0$	Solve: $x^2 - x - 30 = 0$	Solve: $x^2 + 2x - 63 = 0$
SUBSTITUTE	Work out the value of: $3x + 5$ when $x=4$	Work out the value of: $4x - 3$ when $x=5$	Work out the value of: x^2 when $x=3$	Work out the value of: $2x^2$ when $x=6$	Does the coordinate (3,5) lie on the line $y=2x-1$	Complete a table of values for when $x = -2, -1, 0, 1, 2$ $y = 2x + 5$	Complete a table of values for when $x = 1, 2, 3, 4, 5, 6$ $y = \frac{3}{x}$	Work out the value of: $2x^2 + 9$ when $x=3$	Work out the value of: $2x^2 - 5$ when $x=5$
INDICES	Write the value of: p^0	Simplify: $\frac{x^9}{x^2}$	Simplify: $\frac{x^2 \times x^6}{x^3}$	Simplify: $\frac{x^3 \times x^5}{x^9}$	Simplify: $\frac{3x^2 \times 4x^6}{2x^3}$	Simplify: $\frac{5x^6 \times 4x^2}{10x^{11}}$	Write the reciprocal of: 7	Simplify: 5^{-1}	Simplify: 3^{-2}
REARRANGE	$p = 3y$ Make y the subject	$p = 3y + 11$ Make y the subject	$p = 2y - 13$ Make y the subject	Make p the subject $y = \frac{p}{4} + 9$	Make p the subject $y = \frac{p}{5} - 3$	Make p the subject $y = \frac{p-4}{3}$	Make p the subject $y = \sqrt{p} + m$	Make p the subject $y = \sqrt{p-5}$	Make p the subject $y = \sqrt{\frac{p+m}{5}}$