

Algebra (Basic)

Evaluation

1. Evaluate $30 - 3p^2q$ where $p = -1$ and $q = -6$ 2 KU

Simplification

2. Simplify $4(3x - 2) - 5(4x + 1)$ 3 KU
3. Remove the brackets and collect like terms $(3a - b)(2a - 5b)$ 2 KU
4. Remove the brackets and simplify your answer $(2x - 1)(x + 3) + (x - 4)^2$ 4 KU
5. Remove the brackets and simplify $(3y - 4)^2$ 2 KU
6. Multiply out the brackets and simplify. $(2x - 3)(3x^2 + 4x - 1)$ 3 KU

Factorisation

7. Factorise $6x^2 - 9x$ 2 KU
8. Factorise $4a^2 - 9b^2$ 2 KU
9. a) Factorise the expression $9x^2 - y^2$ 1 KU
 b) Hence simplify $\frac{6x + 2y}{9x^2 - y^2}$ 2 KU
10. a) Factorise $a^2 - 9b^2$ 1 KU
 b) Hence simplify $\frac{a^2 - 9b^2}{2a + 6b}$ 2 KU
11. a) Factorise $x^2 - 9$ 1 KU
 b) Express $\frac{4(5x + 3)}{25x^2 - 9}$ in its simplest form 2 KU
12. Express $\frac{15x - 20}{9x^2 - 16}$ in its simplest form 3 KU
13. i) Factorise **completely** $2x^2 - 6x$ 1 KU
 ii) Express $\frac{2x^2 - 6x}{x^2 - 9}$ in its simplest form. 2 KU
14. Factorise $3x^2 - 13x - 10$ 2 KU

Solve Linear Equations

15. Solve the equation $5 - 2(1 + 3x) = 27$ 3 KU

16. Solve the equation $5 + 3a = a - 15$ 3 KU

Simultaneous Equations

17. Solve **algebraically**, the system of equations $2a + 4b = -7$ 3 KU
 $3a - 5b = 17$

18. Solve the system of equations $5a + 3b = 9$ 3 KU
 $7a - 2b = 25$