

1. Multiply $(2x - 3)(x^2 - 5x + 1)$
2. Simplify $\frac{32x^{-4}y^3}{4x^{-5}y^8}$ and write your answer as an expression without negative exponents.
3. Multiply and write the product in simplest form: $\frac{x^2-4x+4}{x-3} \cdot \frac{2x-6}{x^2-4}$
4. Solve for x: $a = \frac{x-b}{y}$
5. Find an equation for the line parallel to $y = 3x + 1$ that goes through the point $(0, 5)$.
6. Solve the following equation by factoring: $2n^2 + 5n - 12 = 0$. Check your answer.
7. Simplify and then if appropriate, write in radical notation: $(3a^{5/6})(8a^{2/3})$
8. Find the slope, the x-intercept, and the y-intercept of the graph $2x + 4y = 7$
9. Use the quadratic formula to solve: $x^2 + 2x - 1 = 0$
10. Solve the inequality $1 \leq \frac{x-3}{2} < 3$ and graph the solution on a number line.
11. The height h in feet of a rocket t seconds after launch is given by the equation: $h = 144t - 16t^2$.
 - a) When will the rocket reach a height of 320 feet?
 - b) When will the rocket be back on the ground?
12. Write an equivalent expression with as many factors as possible removed from under the radical: $\sqrt{50x^6y^9}$
13. Rationalize the denominator $\frac{5}{7-\sqrt{3}}$
14. Multiply $(5 + \sqrt{2})(8 - \sqrt{2})$
15. How long is a guy wire that reaches from the top of a 12 foot pole to a point on the ground 5 ft from the bottom of the pole?