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?