

1. $(3 + 5i)(-6 + 5i)$ Write in Standard Form

2. Write the general form of a polynomial function with the following zeros: 3, -3, 1, 1

3. Find any form of a quadratic function with x-intercepts at -4 and 2.

4. Simplify: i^{103}

5. $(4x^4 + 7x^3 - 4x^2 + 3x - 8) \div (x^2 + 2x - 1)$

6. $\frac{9 + 4i}{4 - 3i}$ Write in Standard Form

7. $f(x) = 5x^4 - 2x^3 + 4x^2 + 5x + 6$ List all the Rational Candidates for zeros.

8. $f(x) = -3x^4 - 6x^3 + 2x^2 + 5x + 1$ Find the possible number of **positive** zeros, then the possible number of **negative** zeros according to **Descartes Rule of Signs**.

9. $f(x) = 2x^6 - 28x^5 + 25x^4 + 14x^3 - 12x^2 - 11x + 30$ Find $f(13)$ by Synthetic Substitution.

10. $y = |x + 12| + 7$ How has the function been transformed from the parent function.

11. $f(x) = -7x^8 + 9x^7 - 3x^5 + x^2 - 2x + 6$ Write the End Behavior (Left Side First) in Limit Form.

12. $f(x) = -3x^2 + 18x - 2$ Find the maximum value for $f(x)$

13. Factor $6x^3 + 7x^2 - x - 2$

14. Given a line with slope $-\frac{2}{3}$ that contains the point $(-6, -11)$. Write the equation of the line in point-slope form.

15. Write a Real Polynomial of minimum degree with zeros: $2, 3 - 4i$ in Simplified Form.