

1.  $f(x) = 3x^3 + 18x - 5$  Find the minimum value.
2. Factor  $6x^4 + 7x^3 - 26x^2 - 7x + 20$
3.  $6x^5 - 5x^4 + 10x^3 - 2x^2 + 4x - 18$  List all the Rational Candidates for zeros
4. A line has a slope of  $\frac{2}{3}$  and passes through the point (10, -5). Write the point-slope equation of the line.
5.  $(3x^4 + 2x^3 - 4x^2 - x + 4) \div (x^2 - 2x + 2) =$
6.  $y = 3|x - 2| - 4$  How has the parent function been transformed to produce this function?
7.  $f(x) = x^5 - 12x^4 - 14x^3 + 15x^2 - 29x + 20$ . Use Synthetic Substitution to find  $f(13)$ .
8. Write the general form of a polynomial with zeros: 3, 2, 2, -1
9.  $f(x) = -5x^5 - 3x^4 + 2x^3 + 4x^2 - 8x + 3$ . Find the number of positive zeros, then find the number of negative zeros.
10. Simplify  $i^{219}$
11.  $(2 - 7i)(5 + 8i)$  Write in Standard Form.
12.  $\frac{5 - 3i}{3 + 4i}$  Write in Standard Form.
13.  $f(x) = -4x^7 + 3x^5 - 2x^4 + x^2 - 12x + 15$  Write the End Behavior (Left Side First) in Limit Form.
14. Find a quadratic function with x-intercepts at 5 and -3 and passes through point (6, 8).
15.  $f(x) = 2x^2 - 20x + 7$ . Find the vertex.
16.  $(7x^4 - 6x^3 + 4x^2 - 3x + 5) \div (x - 2) =$