

Algebra II
Polynomials #1.5

Name _____

Decide whether the following functions are polynomial functions. If so, write it in standard form and state its degree, type, leading coefficient and y-intercept

1. $f(x) = 6x^3 - 9x^{-3} + x^2 - 5x - 1$

2. $g(x) = 11x^2 - \sqrt{7} + 12x$

Evaluate the following functions.

3. $g(x) = -x^3 + 5x^2 + 9x + 4$, find $g(-11)$

Describe the end behavior of the graph of the function.

4. $h(x) = -5x^4 + 7x^3 - 7x^6 + x^2 - 9x + 2$

5. $f(x) = -2x^3 + 5x^2 + 4x^5 - 3x^4 + 12x^2 - 4$

6. Graph the polynomial functions from #4 & #5 using your graphing calculator or desmos. State the intervals where the function is increasing or decreasing.

Graph the following functions (without the help of a graphing utility) using the end behavior, y-intercept and table of values.

7. $h(x) = x^4 - x^3 - 5x^2$

8. $g(x) = x^5 - 2x^4 + x - 2$