Worksheet 20

1- Which of the following is a polynomial function:

a. $f(x) = \sqrt[3]{x^2 + 5}$.

b. $f(x) = 6x^3 - 9x^2 + 1$.

c. $f(x) = 4x^3 + 9x^{-2} - 18$.

2- Find the degree and leading coefficient of:

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

b. $f(x) = 2x^6 - 10x + 3$.

3- Find the y-intercept of $f(x) = x^6 - 7x^4 + 7x^2 + 15$.

4- Find the zeros and their multiplicity of $f(x) = x^6 - 20x^4 + 64x^2$.

5- Identify the end behavior of the polynomial functions:

a. $f(x) = -5x^3 - 4x + 1$.

b. $f(x) = x(x + 1)(x - 1)(x + 4)$.