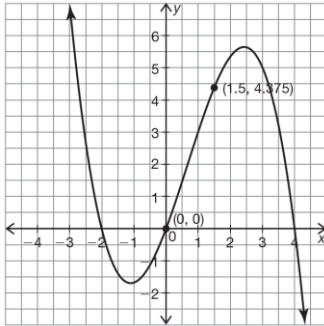Name: _____ Period: _____ Due Date: <u>April 1, 2019</u>
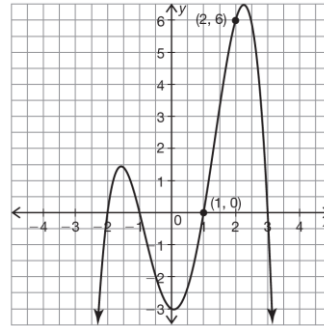(MATH 4/5H)

Polynomial Functions Homework #9

Directions: Find the average rate of change over each interval.

1. (-2,1)

2. (-1,2)

Directions: Use the indicated method to determine whether the factor is a factor of the polynomial.

1. Synthetic Division
    Factor: 3x+2
    Polynomial: $3x^5+20x^4+9x^3-92x^2-60x$

2. Remainder/Factor Theorem
    Factor: x-3
    Polynomial: $x^3+12x^2+17x-30$

Directions: Use division to write the dividend as the product of the divisor and the quotient.

1. Long Division: $(2x^3+7x^2-10x-24)\div(x+4)$

2. Synthetic Division: $(2x^3-x^2-13x-6)\div(x-2)$

Directions: Factor each of the following polynomials COMPLETELY.

1. x^2+7x+6

2. $25x^4+35x^2+6$

3. $12x^4+13x^2-4$

4. $27x^3-45x^2-12x+20$

5. $x^3-7x^2-4x+28$

6. x^6-64

7. $(x^2+7x)^2-7(x^2+7x)+12$

8. $x^3-3x^2-4x+12$