Name: _____ Period: ____ Due Date: February 4, 2019

(MATH 5)

Polynomial Operations Homework #4

Directions: Determine whether the given factor is a factor of each polynomial and explain your answer.

1. Is x-4 a factor of $2x^3 – 7x^2 – 19x + 60$?
2. Is 2x-1 a factor of $4x^4 + 7x^2 – 9$?
3. Is x+2 a factor of $3x^3 + 5x^2 – 2x$?
4. Is 3x+1 a factor of $9x^3 + 9x^2 – 7x – 3$?

Directions: Factor each polynomial completely.

1. $4x^2+8x+3$
2. x^3+x^2-9x-9
3. $9x^4+30x^2-11$
4. $x^4-3x^3-x^2+3x$

5. x^2-9

7. x^3-8

6. x^4-81

8. $27x^3+1$

Directions: Determine all of the possible rational roots of each polynomial.

1. $2x^4-4x^2+15=0$

2. $x^3+3x^2-18x-40=0$

Directions: Solve the polynomial completely.

1. $x^3+3x^2-18x-40=0$