## AFTER EXAM 3

Show all work in the space provided.

For the polynomial:  $9x^4y^2 + 14x^3y - 7x^2y^5$ 

- 1) Write in standard form:
- 2) Write the leading coefficient:
- 3) Find the degree of the polynomial:

Sketch the graph: 4)  $f(x) = x^3 + 2x - 4$ 

5)  $f(x) = x^2 + 2x - 5$ 





6) For  $f(x) = -x^2 + 2x$ , find f(a + 5) - f(3)

Simplify Completely 7)  $(13y^5 + 9y^4 + 3y - 5y^2 + 6) - (-9y^5 + 8y^2 + 11 - 7y^3)$  Factor completely 8)  $3y^3 - 15y^2 + 18y$ 

**9)** 125*x*<sup>3</sup>+1

Solve each polynomial equation by factoring 10) (3x+2)(2x-1)=55 11)  $x^3+2x^2-16x=32$ 

Solve and answer the problem. Show all work.

12) A rock is thrown from the top of a building. The distance, in feet, between the rock and the ground t seconds, after the rock is thrown is given by  $d = -16t^2 + 34t + 15$ . How long after the rock is thrown does it hit the ground?