

Name: \_\_\_\_\_ Hour: \_\_\_\_\_ Date: \_\_\_\_\_

## Graphing Polynomials Practice III

For the following factored polynomials:

a) Find the zeros

b) State any multiples and give their multiplicities. (If there are no multiples write that there are none!)

c) Describe the end behavior

d) Sketch a graph of the polynomial

1)  $y = x^2(x + 1)(x - 2)^3$

2)  $y = -x(x + 4)(x - 4)$

3)  $y = x^3(x + 5)$

4)  $y = -(x + 3)(x + 1)(x - 6)^3$

Follow the same directions as #1-4

$$5) y = (x - 3)^2(x + 1)^3$$

$$6) y = -(x + 8)(x - 5)^4(x + 2)$$

$$7) y = -2x(x + 5)^2$$

$$8) y = (x + 2)(x + 1)^2(x - 4)(x - 2)^2(6x - 2)$$