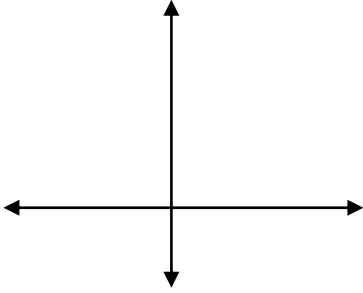Review Graphing Polynomials

I. Sketch the following polynomials on the axis provided. Find all the zeros for each polynomial, indicate any multiplicities other than 1, and determine end behavior.
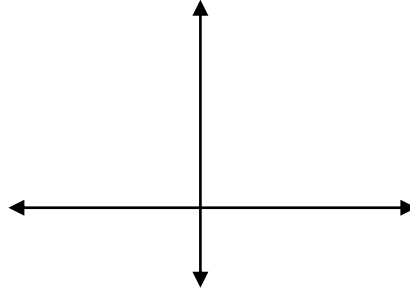
1) $f(x) = (x+1)(x-2)$

2) $g(x) = -(x+3)(x+2)(x-1)$

3) $h(x) = -x(x-2)(x+4)(x+1)$
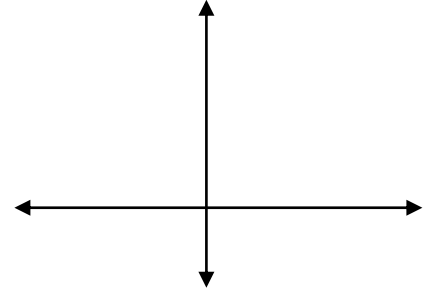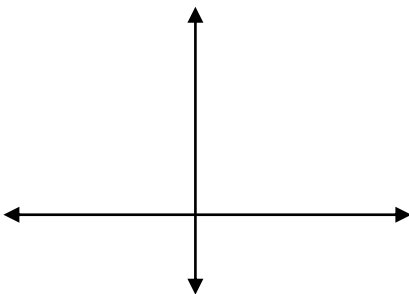
Leading term _____

End Behavior: _____

Zeros: _____

mult:_____

Leading term _____

End Behavior: _____

Zeros: _____

mult:_____

Leading term _____

End Behavior: _____

Zeros: _____

mult:_____

4) $p(x) = (x-2)^2(x+3)$

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

6) $f(x) = -(x+3)^5(x-1)$

Leading term _____

End Behavior: _____

Zeros: _____

mult:_____

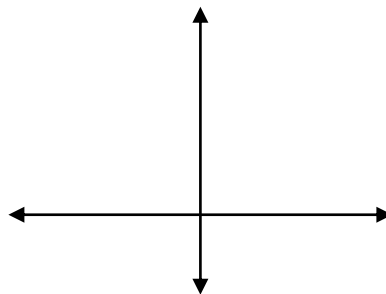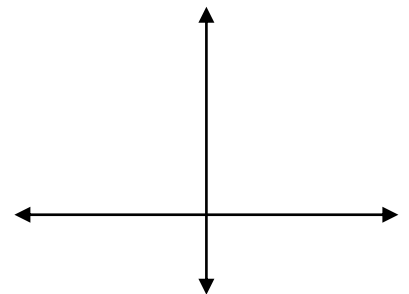Leading term _____

End Behavior: _____
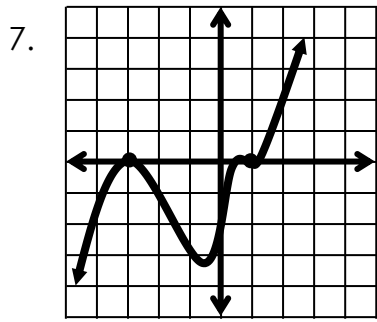
Zeros: _____

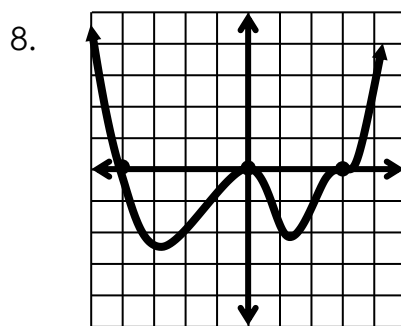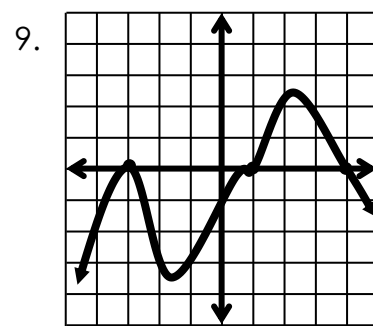mult:_____

Leading term _____

End Behavior: _____

Zeros: _____

mult:_____

II. Find an equation for the following polynomials. (Factored form.)

7.

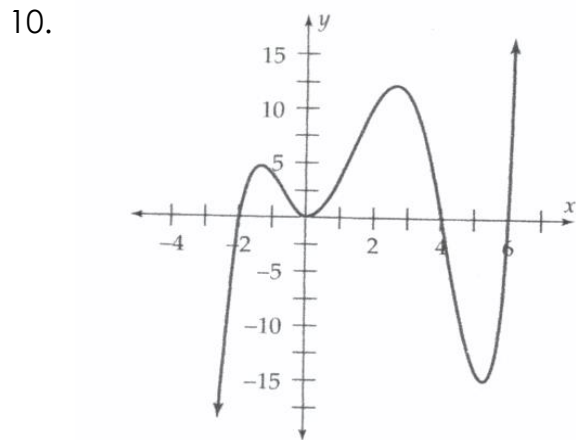5th degree

_____

8.

6th degree

_____

9.

8th degree

_____

III A complete graph of a polynomial is shown. a) Is the degree even or odd? b) Is the leading coefficient positive or negative? c) What are the real zeros? d) What is the smallest possible degree?
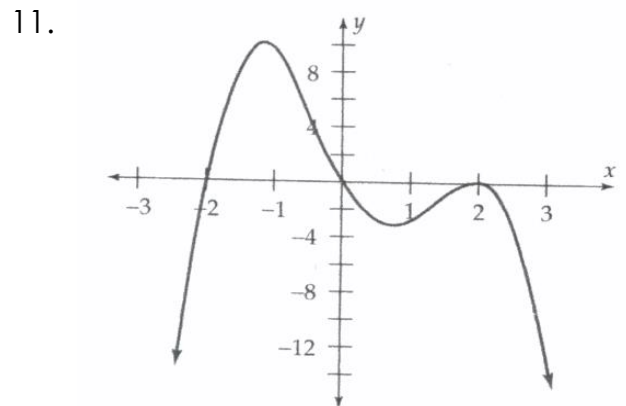
10.

a) _____

b) _____

c) _____

d) _____

11.

a) _____

b) _____

c) _____

d) _____