

## Practice 2.3 Graphing Polynomials (By hand)

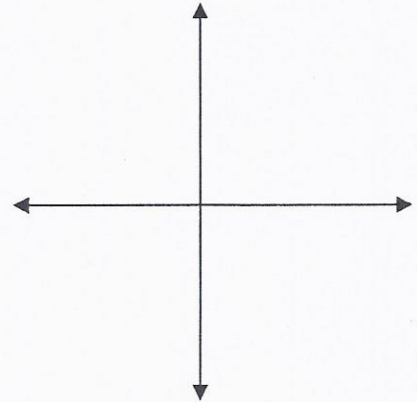
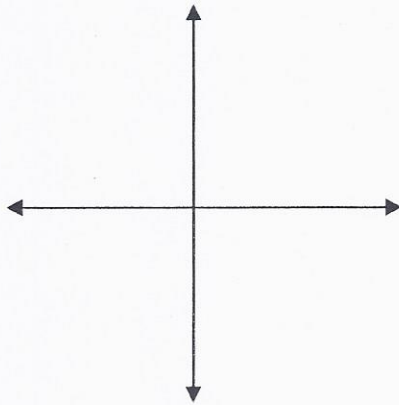
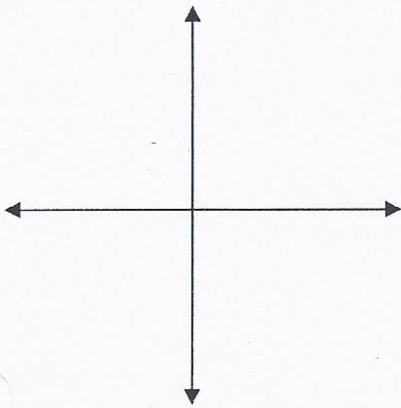
For each polynomial function:

- State the degree of the polynomial and whether the leading coefficient is positive or negative
- List all the zeros and their multiplicity
- Sketch the graphs with all zeros clearly identified

1.)  $f(x) = x^2(x - 2)(x + 4)$

2.)  $f(x) = -(x - 3)^3(x + 4)^2$

3.)  $f(x) = (5 - x)(x - 2)(x + 1)$



4.)  $f(x) = -(x - 3)^3(x + 4)^3$

5.)  $f(x) = (2 - x)^2(x + 4)(x - 10)(5 - x)$

6.)  $f(x) = -2x(x - 3)^3(x + 4)^2(x + 8)$

