Module 5.2 Practice

State the Following:

- 1) Domain, Range
- 2) End Behavior
- 3) X- intercepts
- 4) Values where the intercepts are tangent and/or cross the line.

1)
$$f(x) = -(x-2)(x-1)(x+1)$$

2)
$$f(x) = x(x+3)(x+1)^2$$

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

4)
$$f(x) = -x(x+1)(x-3)(x-6)$$

5)
$$f(x) = (x-5)(x-1)(x+1)$$

6)
$$f(x) = -x(x-5)(x+3)^2$$

7)
$$f(x) = -(x-1)^2(x-3)$$

8)
$$f(x) = x(x-5)(x-1)$$

9)
$$f(x) = (x-7)(x-1)^2$$

10)
$$f(x) = -(x+8)(x+3)(x+1)(x-4)$$

Sketch and Graph the above functions. State the number of turns as well as the number of maximums/ minimums.

-8 -6 -4 -2 2 4 6 8 x	-8 -6 -4 -2 2 4 6 8 x
-8 -6 -4 -2 2 4 6 8 x	-8 -6 -4 -2 2 4 6 8 x
-8 -6 -4 -2 2 4 6 8 x	-8 -6 -4 -2 2 4 6 8 x
-8 -6 -4 -2 2 4 6 8 x	-8 -6 -4 -2 2 4 6 8 x -8 -6 -4 -2 -2 4 6 8 x
-8 -6 -4 -2 2 4 6 8 x	-8 -6 -4 -2 2 4 6 8 x