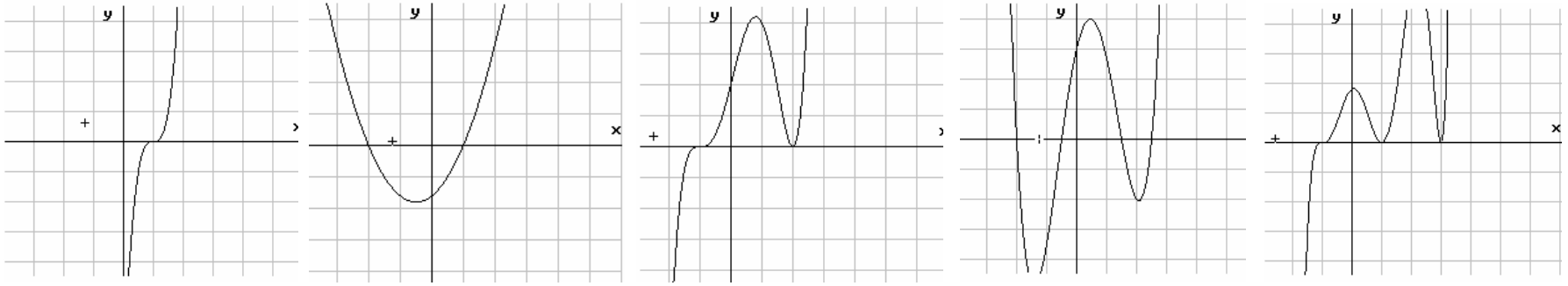
Characteristics From a Graph

Characteristics	a $y=(x-2)^3$	b $y=(x-2)(x+4)$	c $y=(x-2)^2(x+1)^3$	d $y=(x-5)(x-3)(x+1)(x+4)$	E $y=(x-3)^2(x-1)^2(x+1)^3$
1.Possible degree of the function	3	2	5	4	7
2.Value leading coefficient	1	1	1	1	1
3.Sign of the leading coefficient	+	+	+	+	+
4.Where does the graph start	3rd	2nd	3rd	2nd	3rd
5.Where does the graph finish	1st	1st	1st	1st	1st
6.Value of the y-intercept	-8	-8	4	60	9
7.The value of the constant	-8	-8	4	60	9
8.What is (are) the x-intercepts (critical zeros)	x = 2	x = -4, 2	X = -1, 2	x = -4, -1, 3, 5	x = -1, 1, 3
9.Multiplicity and value of positive real roots	x =2, m =3	x = 2, m= 1	X = 2, m =2	x = 3, m = 1; x = 5, m = 1	x = 1, m = 2; x = 3, m = 2
10. Multiplicity and value of negative real roots	none	x = -4, m - 1	X = -1, m = 3	x = -4, m = 1, x = -1, m = 1	x = -1, m = 3
11.Multiplicity and value of imaginary roots	none	none	none	none	none
12.Number of times the graph changes direction	0	1	2	3	4
13.Number of peaks	0	0	1	1	2
14.Number of valleys	0	1	1	2	2

a) b) c) d) e)