3.3 Polynomial Functions in Factored Form (Class Work)

1. Sketch the graph of the following polynomial functions.

a) $f(x) = (2-x)(x+3)(x-1)$

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

c) $f(x) = x(2x+1)(1-3x)$

d) $f(x) = (1-4x^2)(9-x^2)$

2. Sketch the graph of the following polynomial functions.

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

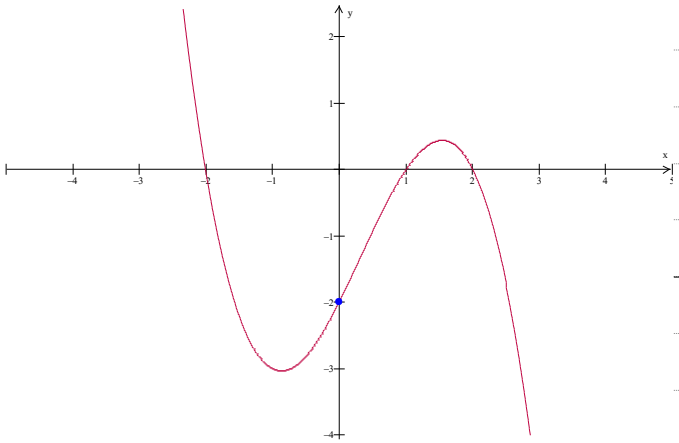
b) $f(x) = (1-x)(x^2-1)$

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

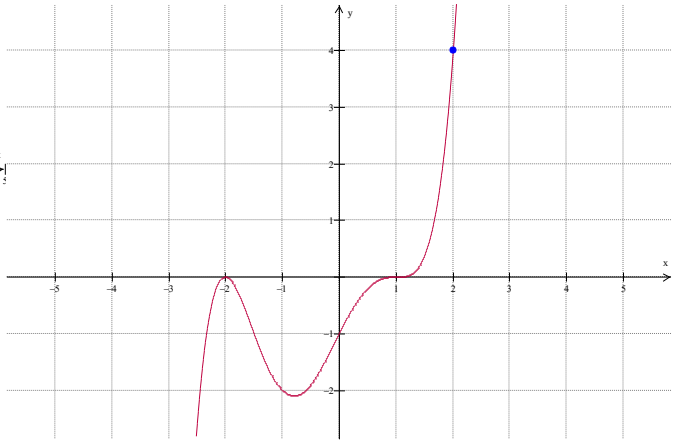
d) $f(x) = (x+2)(x^2+x-2)(x^2-4)$

3. Find the equation of a polynomial functions with the following zeros: 2 (simple zero), -1 (multiplicity 3), and 0 (multiplicity 2) such that $f(1) = 2$. Graph this function.

4. Find the equation of each polynomial function given bellow graphically.



a)



b)

5. Find a polynomial function satisfying the following table of values. Is the solution unique? Explain.

x	y
-2	0
-1	8
0	4
1	0

