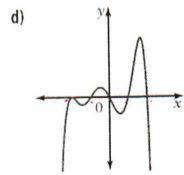
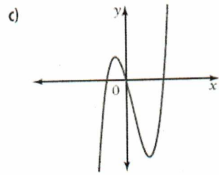
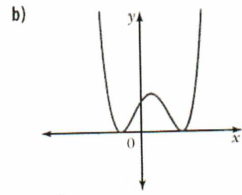
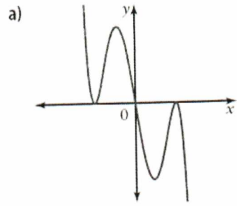


- 1) For each of the graphs below determine if it represents an even or odd degree polynomial, state the sign of the leading coefficient, state the least possible degree of the function and describe the end behavior of the graph.

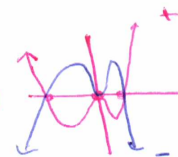


Even or Odd	Sign of leading Coefficient	Least Possible Degree	End Behavior
odd	-	5	opposite
even	+	4	same
odd	+	3	opposite
even	-	6	same

2) Graph a polynomial function that satisfies each description.

a) a quartic function with a negative leading coefficient and three x-intercepts

$$P(x) = -x^2(x-1)(x+2)$$

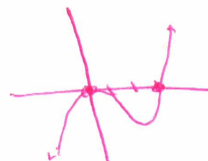


b) a cubic function with a positive leading coefficient and two x-intercepts

$$P(x) = x^2(x-3)$$

c) a quadratic function with a positive leading coefficient and no x-intercepts

$$P(x) = x^2 + 1$$



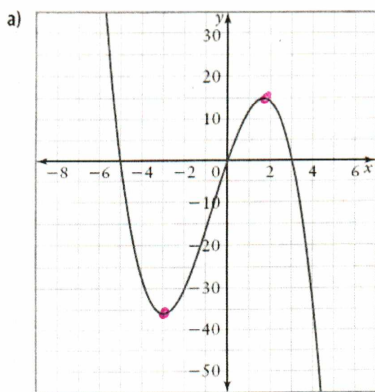
3) For each graph of a polynomial function, determine

i) the least possible degree and the sign of the leading coefficient

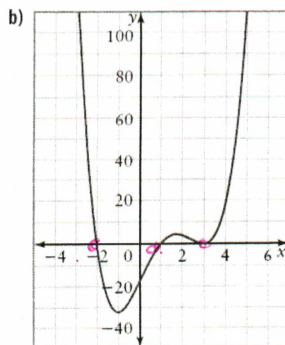
ii) the x-intercepts and the factors of the function

iii) the end behavior for each graph.

iv) Label ON the graph the location of all existing absolute and local maximums and minimums.



3, -  
-5, 0, 3 opp.



4 +  
-2, 1, 3 dr

$$P(x) = (x+2)(x-1)(x-3)^2$$