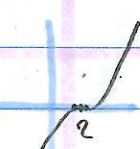
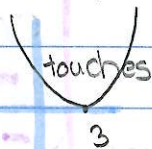
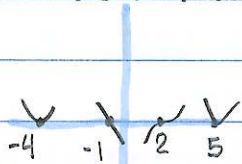


Restructuring a Function

multiplicity & Graph Behaviour

Given x-intercepts re-create a potential function



Sharply -4
 $= (x+4)$

$(x-3)(x-3)$
 $(x-3)^2$
 quadratic

$(x-2)(x-2)(x-2)$
 $(x-2)^3$
 cubic



$x = -5$
 $(x+5)^4$

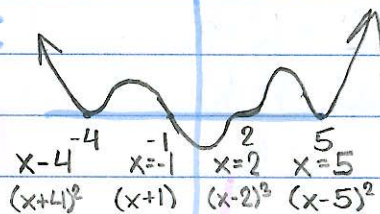
quartic



$x = -3$
 $(x+3)^5$

quintic

Ex:



$P(x) = (x+4)^2(x+1)(x-2)^3(x-5)^2$