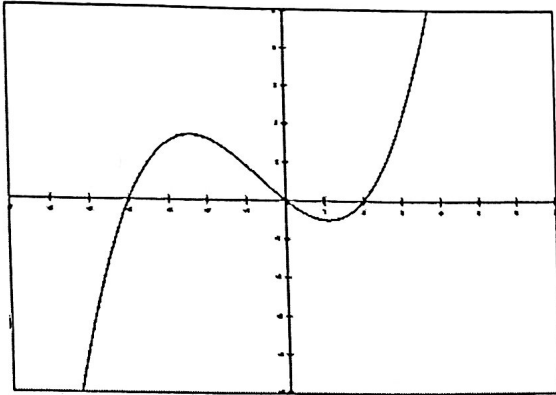


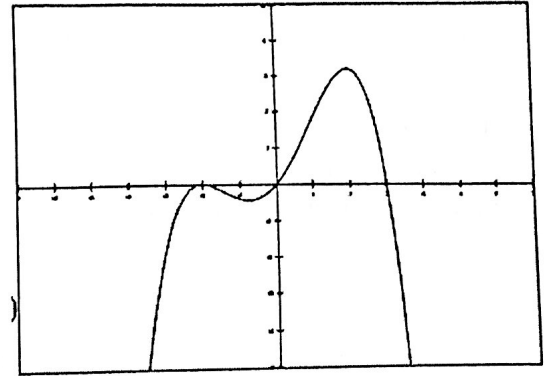
Zeros of a Polynomial Function

Part 1: Look at the graph and state the x-intercepts; watch out for repeated roots!



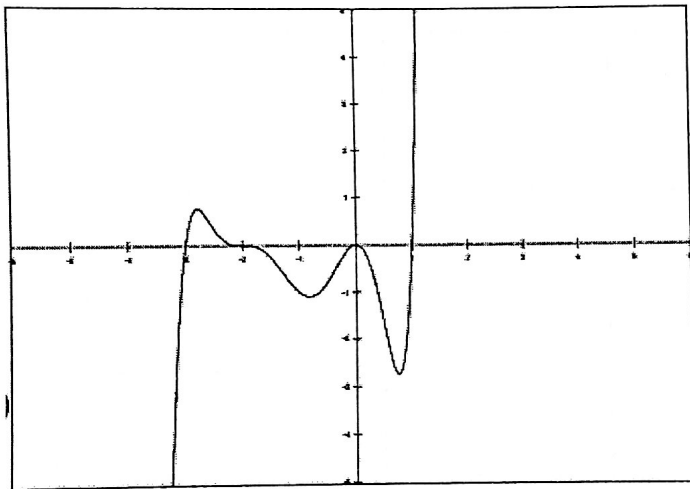
x-intercepts: $x = -4, 0, 2$

equation: $x(x+4)(x-2)$



x-intercepts: $x = -2$ ^{Mult.} $x = 0$ $x = 3$

equation: $-x(x+2)^2(x-3)$



x-intercepts: $x = -3$ $x = -2$ ^{Mult. 3} $x = 0$ ^{Mult. 2} $x = 1$

equation: $x^2(x+3)(x+2)^3(x-1)$

Part 2: Use the calculator to find any exact roots.

A) $f(x) = x^3 - 6x^2 + 11x - 6$

Zeros: $x = 1, 2, 3$

C) $f(x) = x^3 - 9x^2 + 20x - 12$

Zeros: $x = 1, 2, 6$

B) $f(x) = x^3 - 9x^2 + 27x - 27$

Zeros: $x = 3$ ^{Mult. 3}

Factored Form of each function

A) $(x-1)(x-2)(x-3)$

B) $(x-1)(x-2)(x-6)$

C) $(x-3)^3$