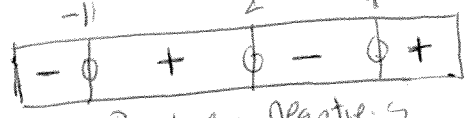


$f(x)$

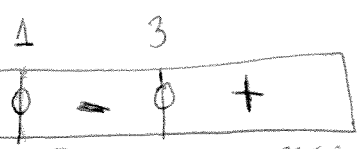
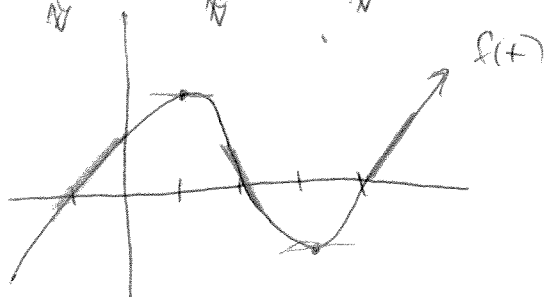


Zero Positive Zero Negative Zero

To Find Zeros of Function

Calc: 2

- or Newton's Method.
- or Solver.
- or Intersection meth
- or Poly Solver on TI 85
- or Wolfram Alpha



Increase MAX Decrease MIN Increase

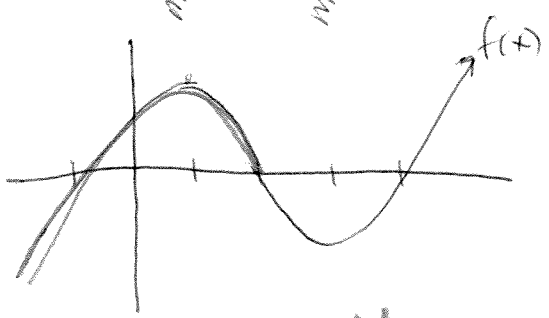


To Find Max/Min  
Calc: 3 or 4

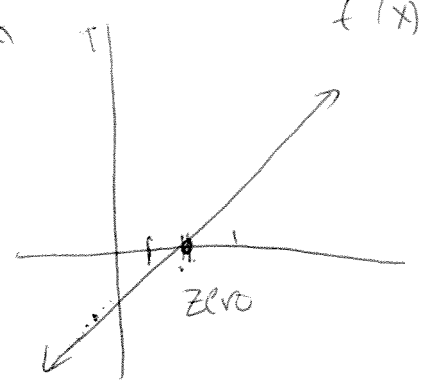
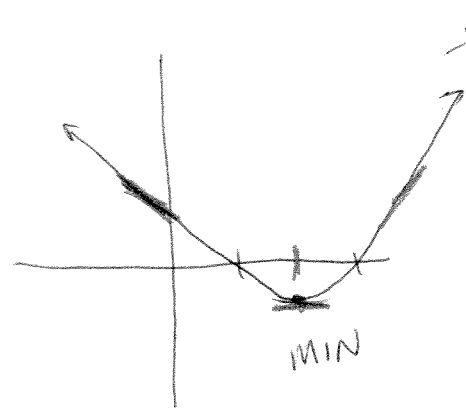
Find  $y' = 0$ .  
use methods above.

(Critical Numbers.)  
when  $y'' = 0$

First Derivative Test



concave down Inflection pt concave up



Find  
Calc 3 or 4  
Find max/min  
of  $y'$

Find  
 $y_1 =$  reg edit  
 $y_2 =$  nDer(1,  $y_1 =$  reg' edit  
 $y_3 =$  nDer(4,  $y_1 =$  reg''

Ex  $y = Ax^3 + Bx^2 + Cx + D$   
 $y' = 3Ax^2 + 2Bx + C$   
 $y'' = 6Ax + 2B = 0$   
 $6Ax = -2B$   
 $x = -2B/6A$  or  $-\frac{B}{3A}$

Then find zero  
same way.