

## Polynomial Equations and Inequalities on the TI-83

1. Determine the zeroes of  $f(x) = x^3 - 4x^2 + x + 5$ .
2. Determine the intervals on which  $-x^4 - 3x^3 + 2x^2 + 4x + 4 > x + 5$ .
3. Determine the intervals on which  $-x^4(x - 8)(x + 2) > 5$ .
4. Determine the intervals on which  $26 < -0.1x(x - 4)(x + 3) + 28 < 29$ .
5. Complete the table of values below for the function  $f(x) = -2x^4 - x^3 + 5x^2 - 2x + 1$ .

<b>x</b>	<b>y</b>
-1	
-0.5	
0	
0.5	
1	
1.5	

6. Determine the instantaneous rate of change of  $f(x) = 2x^2 + 5x - 3$  when  $x = 4$ .