$\Delta^2 f(x) = 88 \times h \times 3x^{(2)} + 822 \times h \times 2x^{(1)} + 1360 \times h$
$= 88 \times 2 \times 3x^{(2)} + 822 \times 2 \times 2x^{(1)} + 1360 \times 2$
$= 528x^{(2)} + 3288x^{(1)} + 2720$

$\Delta^3 f(x) = 528 \times h \times 2x^{(1)} + 3288 \times h$
$= 528 \times 2 \times 2x^{(1)} + 3288 \times 2$
$= 2112x^{(1)} + 6576$

$\Delta^4 f(x) = 2112 \times h$
$= 2112 \times 2$
$= 4224$

2nd Method :

Using Synthetic division rule

let $f(x) = 11x^4 + 5x^3 + 2x^2 + x - 15$
$= 11x^{(4)} + Ax^{(3)} + Bx^{(2)} + Cx^{(1)} + D$

2	11	5	2	1	$-15 = D$
		22	54	112	
4	11	27	56	$113 = C$	
		44	284		
6	11	71	$340 = B$		
		66			
	11	$137 = A$			

$\therefore f(x) = 11x^{(4)} + 137x^{(3)} + 340x^{(2)} + 113x^{(1)} - 15$