(a) Data to interpolate

$f(1) = 2$

$f(3) = -4$

$f(6) = 5$

i	x_i	$f[x_i]$	$f[x_i,x_{i+1}]$	$f[x_i,x_{i+1},x_{i+2}]$	$f[x_i,x_{i+1},x_{i+2,xi+3}]$
0	1	2			
			-3		
1	3	-4		1.2	
			3		-0.44
2	6	5		-1	
			0		
3	6	5			

(b) P(x)=2+(x-1)*(-3+(x-3)*(1.2))

P(4) = 2+(4-1)*(-3+(4-3)*1.2)
= 2+3*(-3+1.2)
= 2+3*(-1.8) = 2-5.4 = -3.4

(c) Then add f'(6) = 0

$P_{new}(x)=$ 2+(x-1)*(-3+(x-3)*(1.2+(x-6)*(-0.44)))