

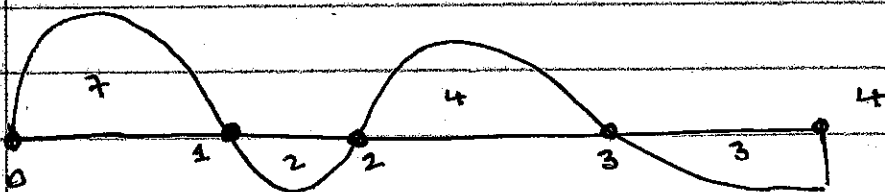
5.1 Net Area

A numerical sum written in general is

$$A \approx \sum_{i=1}^N R_i = \sum_{i=1}^N h f(x_i)$$

The height of each rectangle is the function value $f(x_i)$. If the function value is negative, then the height, and hence the area, are negative too.

This means that an area below the x axis counts as a negative, so we introduce the idea of 'net area'



net area from 0 to 1	is	7
0 to 2	is	$7 - 2 = 5$
0 to 3	is	$7 - 2 + 4 = 9$
0 to 4	is	$7 - 2 + 4 - 3 = 6$
1 to 2	is	-2
1 to 3	is	$-2 + 4 = 2$
1 to 4	is	$-2 + 4 - 3 = -1$
2 to 3	is	4
2 to 4	is	$4 - 3 = 1$