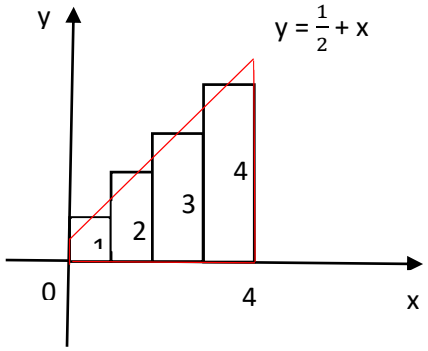
Integration

Given a line ,

y = $\frac{1}{2}$ + x ; Find the area from 0 to 4



$$\int_0^4 (\frac{1}{2} + x)dx = ?$$

$\int_0^4 (\frac{1}{2} + x)dx = \frac{1}{2}\ x + \frac{x^2}{2}\ ]_0^4$ =

= $\frac{1}{2}$ .4 +$\frac{4^2}{2}$ - (0+0) = 2+8-0 = 10

$\int_0^{10} (\frac{1}{2} + x)dx = \frac{1}{2}\ x + \frac{x^2}{2}\ |_0^{10}$ = $\frac{1}{2}$ .10 +$\frac{10^2}{2}$ = 5+50 = 55

The sum of rectangular is

1+2+3+4+5+6+7+8+9+10= $\frac{10}{2}$(1+10) = 55