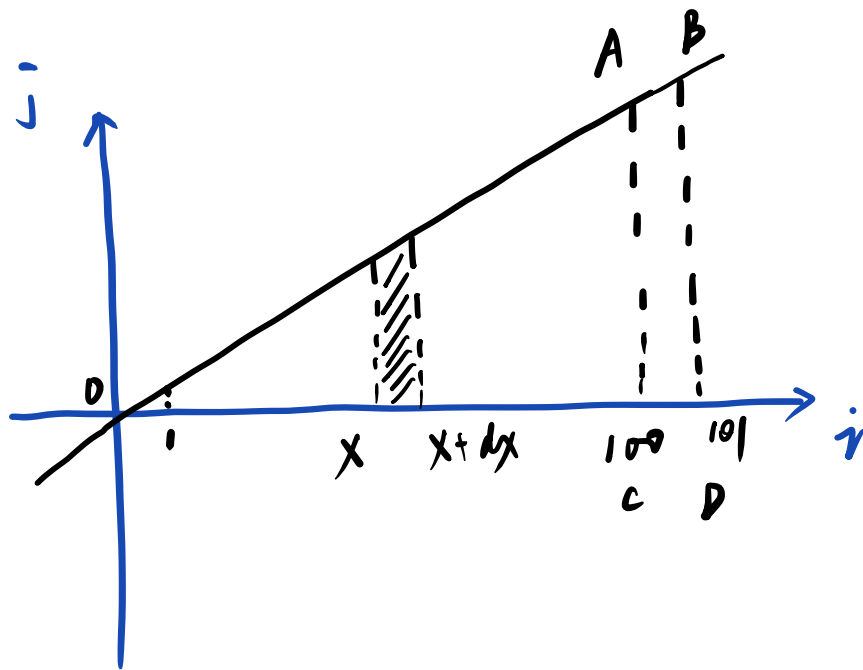


继续微分部分内容  
求和符号

$$\sum_{i=1}^6 \frac{1}{i^2} = \frac{1}{1} + \frac{1}{4} + \frac{1}{9} + \frac{1}{16} + \frac{1}{25} + \frac{1}{36}$$

希腊字母 sigma 的大写

$\sum_{i=1}^{100} i$  : 著名的高斯 (??)



$$\begin{aligned} S_{OAC} &= \int_0^{100} x \, dx = \frac{1}{2} \times 100^2 \\ &= \frac{1}{2} x^2 \Big|_0^{100} \end{aligned}$$

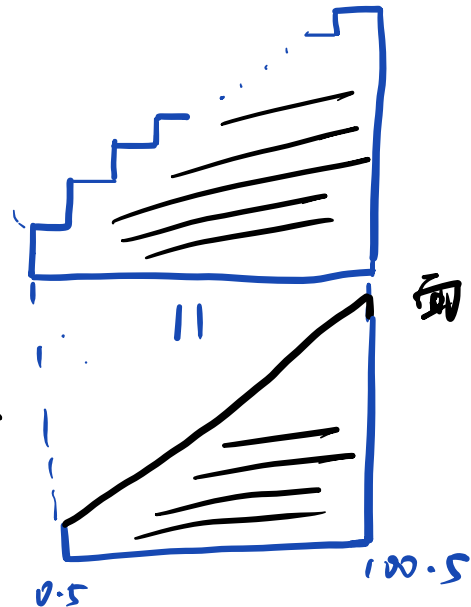
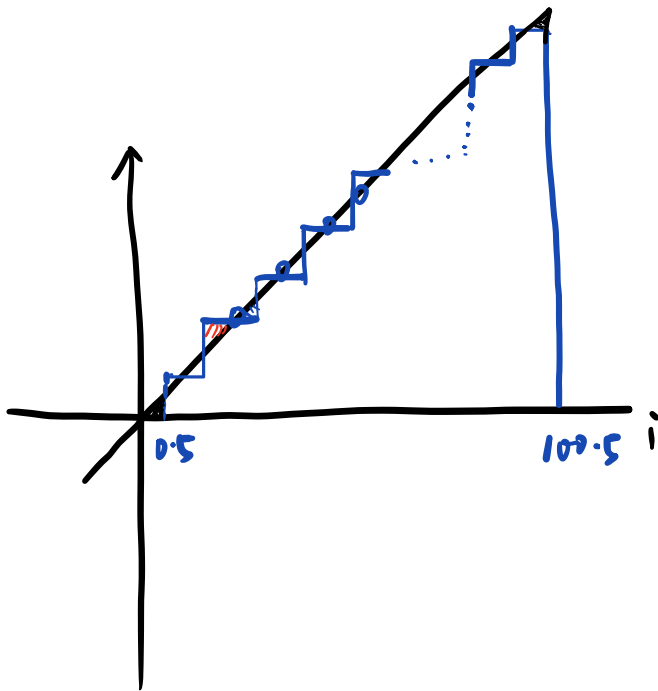
$$\sum_{i=1}^{100} i = \sum_{i=1}^{100} i \times 1$$

$$\textcircled{1} = \int_1^{101} x dx$$

$$\textcircled{2} = \int_0^{100} x dx$$

$$= \frac{1}{2} x^2 \Big|_1^{101} (x)$$

$$= \frac{1}{2} \times 100^2 (x)$$



面积相等

Answer :

$$\frac{1}{2} \times (100+1) \times 100$$

$$= \frac{1}{2} \times (100.5+0.5) \times$$

$$(100.5 - 0.5)$$

(如图)

做对并不容易!

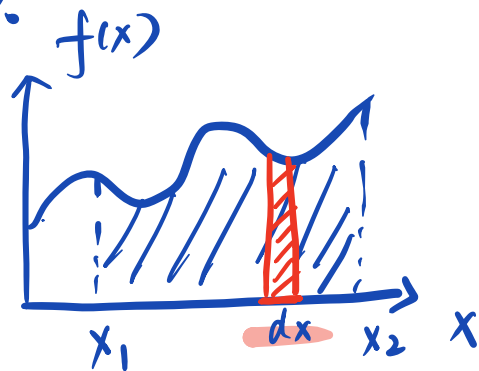
微分, 面积元, 极限

$$= \frac{1}{2} \times (100.5+0.5) \times$$

$$(100.5 - 0.5)$$

(如图)

→ 不规则面积, 体积



面积元：  
 $ds = f(x) dx$

$$S_{\text{阴影}} = \int_{x_1}^{x_2} ds$$

且：

规则：求圆的面积

1° 怎么微分

2° 面积元是什么