

每日一題03

單元1 數與式-分點公式

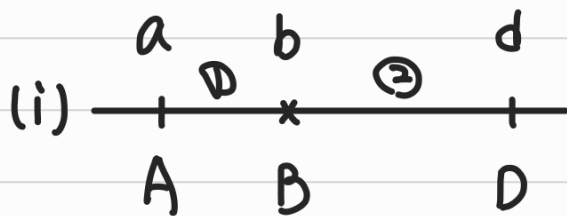
2025.09.03

114翰林第一次模考 #4

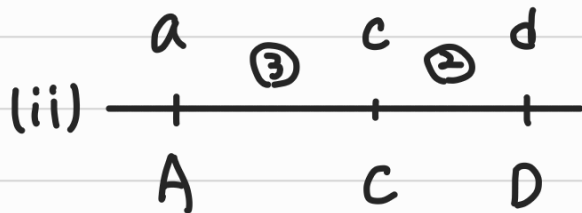
數線上有 $A(a)$, $B(b)$, $C(c)$, $D(d)$ 四點，其中 $a < b < c < d$ ， $\overline{AB} : \overline{BD} = 1 : 2$ ， $\overline{AC} : \overline{CD} = 3 : 2$ ，若 $\overline{BC} = 4$ ，試問 \overline{AD} 之值為何？

- (1) 6
- (2) 9
- (3) 12
- ☒ (4) 15
- (5) 18

<Sol>



$$\Rightarrow b = \frac{2}{1+2}a + \frac{1}{1+2}d \Rightarrow b = \frac{2}{3}a + \frac{1}{3}d$$



$$\Rightarrow c = \frac{2}{3+2}a + \frac{3}{3+2}d \Rightarrow c = \frac{2}{5}a + \frac{3}{5}d$$

$$\overline{BC} = |b - c| = \left| \frac{2}{3}a + \frac{1}{3}d - \left(\frac{2}{5}a + \frac{3}{5}d \right) \right|$$

$$= \left| \frac{4}{15}a - \frac{4}{15}d \right| = \frac{4}{15}|a - d| = \frac{4}{15}\overline{AD}$$

$$\Rightarrow \overline{AD} = \frac{15}{4}\overline{BC} = \frac{15}{4} \cdot 4 = 15 \quad \#$$