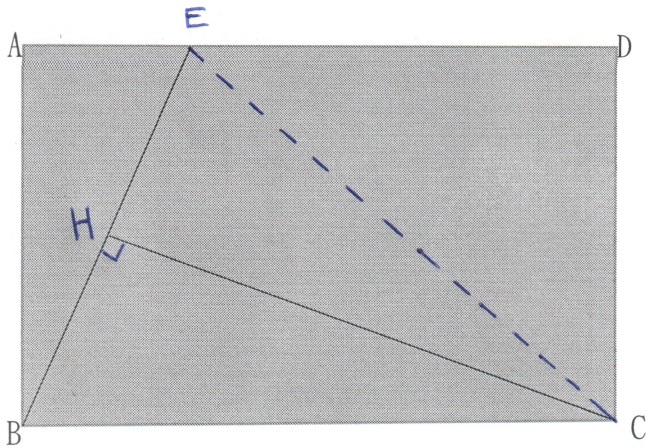


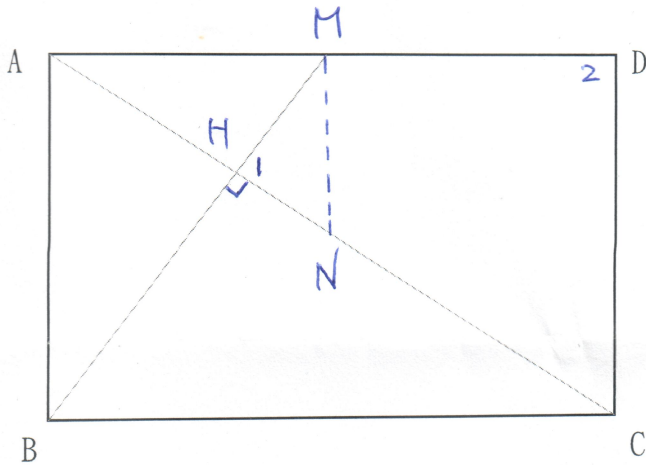
(1) 求下圖長方形 ABCD 的面積。已知  $\overline{BE}=4$ ,  $\overline{CH}=7$ 。



連接  $\overline{CE}$

$$\begin{aligned} \text{Area } \triangle BCE &= \frac{1}{2} \overline{BE} \times \overline{CH} \\ &= \frac{1}{2} \overline{BC} \times \overline{AB} \\ \Rightarrow \overline{BC} \times \overline{AB} &= 4 \times 7 = 28 \\ \text{長方形 ABCD 面積為 } &28 \end{aligned}$$

(2) 求下圖長方形 ABCD 的邊  $\overline{AB}$  長度。(已知  $\overline{AM}=\overline{MD}=1$ , 且  $\overline{BM}$  與  $\overline{AC}$  垂直)



$\angle 1 + \angle 2 = 90^\circ + 90^\circ = 180^\circ$   
因此四邊形 CDMH 有外接圓

$$\begin{aligned} \Rightarrow \overline{AD} \times \overline{AM} &= \overline{AC} \times \overline{AH} \text{ (外幕)} \\ \text{設 } \overline{AB} &= a, \text{ 作 } \overline{MN} \parallel \overline{CD} \\ \Rightarrow \triangle ABH &\sim \triangle NMH, \overline{MN} = \frac{1}{2} \overline{DC} \\ \Rightarrow \overline{AH} : \overline{HN} &= \overline{AB} : \overline{MN} = 2 : 1 \end{aligned}$$

$$\begin{aligned} \Rightarrow \overline{AH} &= \frac{2}{3} \overline{AN} = \frac{2}{3} \left( \frac{1}{2} \overline{AC} \right) \\ &= \frac{1}{3} \overline{AC} \\ &= \frac{1}{3} \sqrt{a^2 + 4} \end{aligned}$$

$$\Rightarrow 2 \times 1 = \sqrt{a^2 + 4} \times \frac{1}{3} \sqrt{a^2 + 4}$$

$$\Rightarrow 2 = \frac{1}{3} (a^2 + 4)$$

$$\Rightarrow 6 = a^2 + 4$$

$$\Rightarrow a^2 = 2$$

$$\Rightarrow a = \sqrt{2}$$