

填充 14

$$\text{【Ans】 } D-F-H \Rightarrow \overrightarrow{BH} = (1-t)\overrightarrow{BD} + t\overrightarrow{BF} = (1-t)\left(\frac{3}{4}\overrightarrow{BA}\right) + t\left(\frac{3}{5}\overrightarrow{BA} + \frac{2}{5}\overrightarrow{BC}\right)$$

$$= \left(\frac{3}{4} - \frac{3}{20}t\right)\overrightarrow{BA} + \frac{2}{5}t\overrightarrow{BC}$$

$$E-G-H \Rightarrow \overrightarrow{BH} = (1-s)\overrightarrow{BE} + s\overrightarrow{BG} = (1-s)\left(\frac{1}{3}\overrightarrow{BC}\right) + s\left(\frac{2}{5}\overrightarrow{BA} + \frac{3}{5}\overrightarrow{BC}\right)$$

$$= \frac{2}{5}s\overrightarrow{BA} + \left(\frac{1}{3} + \frac{4}{15}s\right)\overrightarrow{BC}$$

$$\begin{cases} \frac{3}{4} - \frac{3}{20}t = \frac{2}{5}s \\ \frac{2}{5}t = \frac{1}{3} + \frac{4}{15}s \end{cases} \Rightarrow (t, s) = \left(\frac{5}{3}, \frac{5}{4}\right) \Rightarrow \overrightarrow{BH} = \frac{1}{2}\overrightarrow{BA} + \frac{2}{3}\overrightarrow{BC}$$