

$$\because \lim_{x \rightarrow 1} \frac{a\sqrt{x+3}-b}{x-1} = 1 \quad \text{且} \quad \lim_{x \rightarrow 1} (x-1) = 0 \quad \therefore \lim_{x \rightarrow 1} (a\sqrt{x+3}-b) = 0 \text{ 可知 } 2a = b$$

$$\begin{aligned} \lim_{x \rightarrow 1} \frac{a\sqrt{x+3}-b}{x-1} &= \lim_{x \rightarrow 1} \frac{a(\sqrt{x+3}-2)}{x-1} = \lim_{x \rightarrow 1} \frac{a(\sqrt{x+3}-2)}{x-1} \cdot \frac{\sqrt{x+3}+2}{\sqrt{x+3}+2} \\ &= a \lim_{x \rightarrow 1} \frac{1}{\sqrt{x+3}+2} = \frac{a}{4} = \end{aligned}$$

$$\therefore a = 4, b = 8$$