

(cwh) 1-5
✓

次の等式が成り立つように、定数 a, b の値を定めよ。

$$\lim_{x \rightarrow 2} \frac{a\sqrt{x} + b}{x - 2} = -1$$

$$\lim_{x \rightarrow 2} (x - 2) = 0 \text{ (f)}$$

$$\lim_{x \rightarrow 2} (a\sqrt{x} + b) = 0$$

$$\sqrt{2}a + b = 0$$

$$b = -\sqrt{2}a \text{ (これを式1に代入)} \quad \text{---}$$

$$\lim_{x \rightarrow 2} \frac{a\sqrt{x} - \sqrt{2}a}{x - 2} = \lim_{x \rightarrow 2} \frac{a(\sqrt{x} - \sqrt{2})}{x - 2}$$

$$= \lim_{x \rightarrow 2} \frac{a(\cancel{x-2})}{(\cancel{x-2})(\sqrt{x} + \sqrt{2})}$$

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

$$\frac{a}{2\sqrt{2}} = -1 \quad \text{f} \quad a = -2\sqrt{2}$$

$$b = -\sqrt{2} - (-2\sqrt{2})$$

$$b = 4$$

$$\underline{a = -2\sqrt{2}, b = 4}$$