

$$|x-1| - 1$$

✓

次の極限值を求めよ。

$$(1) \lim_{x \rightarrow 1} \frac{x^2 - 3x + 2}{x - 1}$$

$$(2) \lim_{x \rightarrow 0} \frac{1}{x} \left( \frac{12}{x-4} + 3 \right)$$

$$(3) \lim_{x \rightarrow -4} \frac{\sqrt{x+8} - 2}{x+4}$$

$$(4) \lim_{x \rightarrow 3-0} \frac{x^2 + x - 12}{|x-3|}$$

$$(1) \lim_{x \rightarrow 1} \frac{\cancel{(x-1)}(x-2)}{\cancel{x-1}} = -1$$

$$(2) \lim_{x \rightarrow 0} \frac{1}{x} \left\{ \frac{12 - 3(x-4)}{x-4} \right\} = \lim_{x \rightarrow 0} \left( \frac{1}{x} \cdot \frac{-3x}{x-4} \right) = \lim_{x \rightarrow 0} -\frac{3}{x-4} = \frac{3}{4}$$

$$(3) \lim_{x \rightarrow -4} \frac{x+8-4}{(x+4)(\sqrt{x+8}+2)} = \lim_{x \rightarrow -4} \frac{1}{\sqrt{x+8}+2} = \frac{1}{4}$$

$$(4) \lim_{x \rightarrow 3-0} \frac{(x+4)\cancel{(x-3)}}{-\cancel{(x-3)}} = \lim_{x \rightarrow 3-0} \{ -(x+4) \} = -(3+4) = -7$$