

$$(a) \lim_{x \rightarrow 2} x = 2 \neq 0$$

$$\frac{\lim_{x \rightarrow 2} (4 - g(x))}{\lim_{x \rightarrow 2} x} = 5 \Rightarrow \frac{\lim_{x \rightarrow 2} (4 - g(x))}{2} = 5 \Rightarrow \lim_{x \rightarrow 2} (4 - g(x)) = 10$$

$$\lim_{x \rightarrow 2} 4 - \lim_{x \rightarrow 2} g(x) = 10 \Rightarrow 4 - \lim_{x \rightarrow 2} g(x) = 10$$

$$\boxed{-6} = \lim_{x \rightarrow 2} g(x)$$

$$\begin{aligned} (b) \lim_{x \rightarrow 0} \frac{\sin(4x)}{5x} &= \frac{1}{5} \lim_{x \rightarrow 0} \frac{\sin(4x)}{x} \\ &= \frac{1}{5} \lim_{x \rightarrow 0} \frac{4 \sin(4x)}{4x} \\ &= \frac{4}{5} \lim_{x \rightarrow 0} \frac{\sin(4x)}{4x} \\ &= \frac{4}{5} (1) = \boxed{\frac{4}{5}} \end{aligned}$$

$$(c) \lim_{x \rightarrow -3^+} \frac{x}{x^2 - 9} \quad \frac{-3}{0}$$

$$\lim_{x \rightarrow -3^+} \frac{x}{x^2 - 9} \text{ is either } \infty \text{ or } -\infty$$

$$\lim_{x \rightarrow -3^+} \frac{x}{x^2 - 9} = \lim_{x \rightarrow -3^+} \frac{x}{(x-3)(x+3)} \quad \frac{-}{+}$$

$$\lim_{x \rightarrow -3^+} \frac{x}{x^2 - 9} = \boxed{\infty}$$