3. Given that \( \lim_{x \to a} f(x) = -4, \lim_{x \to a} g(x) = 0 \) and \( \lim_{x \to a} h(x) = 9 \).

Find the limits below that exist. If the limit does not exist, explain why.

(a) \( \lim_{x \to a} [f(x) + h(x)] \).

(b) \( \lim_{x \to a} \frac{f(x)}{h(x)} \).

(c) \( \lim_{x \to a} \sqrt{h(x)} \).

(d) \( \lim_{x \to a} \frac{f(x)}{g(x)} \).

(e) \( \lim_{x \to a} \frac{3f(x)}{g(x) + 2} \).

4. Evaluate the limits, if they exist.

(a) \( \lim_{t \to -1} (t^2 + 1)(t + 3)^5 \).

(b) \( \lim_{x \to 0} \frac{\cos^4(x)}{5 + 2x} \).

5. (a) What is wrong with the following equation?

\[
\frac{x^2 + x - 6}{x - 2} = x + 3.
\]

(b) In view of part(a), explain why the equation

\[
\lim_{t \to 2} \frac{x^2 + x - 6}{x - 2} = \lim_{t \to 2} x + 3
\]

is correct.