5.41

$$|f(x)| \le 10 \Rightarrow |f(x)||g(x)| \le 10|g(x)| \Rightarrow |f(x)||g(x)| \le 10|g(x)| \Rightarrow$$

$$\Rightarrow |f(x)g(x)| \le 10|g(x)| \Rightarrow -10|g(x)| \le f(x)g(x) \le 10|g(x)|$$

Οπότε

$$\left.\begin{array}{l} \lim\limits_{x \to x_o} -10|g(x)| = -10 \cdot 0 = 0 \\ \lim\limits_{x \to x_o} 10|g(x)| = 10 \cdot 0 = 0 \\ -10|g(x)| \le f(x)g(x) \le 10|g(x)| \end{array}\right\} \overset{\text{κριτήριο παρεμβολής}}{\Rightarrow} \boxed{\lim_{x \to x_o}[f(x)g(x)] = 0}$$