

Answer to Question #91485 – Math – Calculus

$$\begin{aligned} & \lim_{x \rightarrow 0} \frac{(x+3)^2 - 9}{2x} \\ &= \lim_{x \rightarrow 0} \frac{x^2 + 9 + 6x - 9}{2x} \\ &= \lim_{x \rightarrow 0} \frac{x^2 + 6x}{2x} \\ &= \lim_{x \rightarrow 0} \frac{x(x+6)}{2x} \\ &= \lim_{x \rightarrow 0} \frac{(x+6)}{2} \end{aligned}$$

Applying limit and Put $x = 0$;

$$\begin{aligned} &= \frac{(0+6)}{2} \\ &= 3. \end{aligned}$$