

### Quiz 4

Name: \_\_\_\_\_

1. Evaluate the following limit by using algebra.

$$\lim_{h \rightarrow 0} \frac{(9 + h)^2 - 81}{h}$$

$$\begin{aligned} &= \lim_{h \rightarrow 0} \frac{81 + 18h + h^2 - 81}{h} \\ &= \lim_{h \rightarrow 0} \frac{18h + h^2}{h} \\ &= \lim_{h \rightarrow 0} (18 + h) = 18. \end{aligned}$$