Example Compute

$$\lim_{x \to 3} \frac{x^2+6x-5}{x-3}.$$

Solution Note that when $x \neq 3$, we may write:

$$\frac{x^2+6x-5}{x-3} = \frac{(x-3)(\boxed{\text{ANS}})}{x-3}$$

$$= \frac{\boxed{\text{ANS}}}{1}.$$

$$= \boxed{\text{ANS}}.$$

Since the definition of a limit assumes

WC	continuity, $\forall x \neq 3$, the limit exists

$$\lim_{x \to 3} \frac{x^2+6x-5}{x-3} = \lim_{x \to 3} \boxed{\text{ANS}}$$

$$= \boxed{\text{ANS}}.$$