

$$\textcircled{a) } \lim_{x \rightarrow 0} \frac{\cancel{(x+2)}^2 - \frac{1}{\cancel{(x+2)}}}{x(x+2)} \quad \text{CD: } (x+2)$$

$$\lim_{x \rightarrow 0} \frac{2 - x - 2}{x(x+2)}$$

$$\lim_{x \rightarrow 0} \frac{\cancel{-x}}{\cancel{x}(x+2)} = \boxed{\frac{-1}{2}}$$

$$\textcircled{c) } \lim_{x \rightarrow 1} \frac{(x+2)^3 - 27}{x-1}$$

$$\lim_{x \rightarrow 1} \frac{\cancel{(x+2)}^{x-1} - 3}{\cancel{x-1}} \left[ (x+2)^2 + 3(x+2) + 9 \right] = 9 + 9 + 9 = \boxed{27}$$