3. Let $\lim_{x \to -2} \dfrac{x^2 + 3x + 2}{x^2 - 5x - 14}$

Check denominator for removable discontinuity $4 - (-10) - 14 = 0$

Simplify:

$$\frac{x^2 + 3x + 2}{x^2 - 5x - 14} = \frac{(x+1)\cancel{(x+2)}}{(x-7)\cancel{(x+2)}} = \frac{x+1}{x-7} = \frac{-1}{-9}$$

$$\lim_{x \to -2} \frac{x+1}{x-7} = \frac{-2+1}{-2-7} = \frac{-1}{-9} = \frac{1}{9}$$