

Exercise 4

Find the limit.

$$\lim_{x \rightarrow 3} \frac{x^2 - 9}{x^2 + 2x - 3}$$

Solution

To determine this limit, plug in 3 for x .

$$\begin{aligned} \lim_{x \rightarrow 3} \frac{x^2 - 9}{x^2 + 2x - 3} &= \frac{(3)^2 - 9}{(3)^2 + 2(3) - 3} \\ &= \frac{9 - 9}{9 + 6 - 3} \\ &= \frac{0}{12} \\ &= 0 \end{aligned}$$