

**Exercise 15**

Evaluate the limit, if it exists.

$$\lim_{t \rightarrow -3} \frac{t^2 - 9}{2t^2 + 7t + 3}$$

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**Solution**

Factor the numerator and denominator and cancel the common factors.

$$\lim_{t \rightarrow -3} \frac{t^2 - 9}{2t^2 + 7t + 3} = \lim_{t \rightarrow -3} \frac{(t + 3)(t - 3)}{(2t + 1)(t + 3)} = \lim_{t \rightarrow -3} \frac{t - 3}{2t + 1} = \frac{-6}{-5} = \frac{6}{5}$$