



Air maths tuition

Interact, engage and perform

Partial Fractions - Calculating Constants - 2 linear factors (summary example)

Express $\frac{2x-1}{(2x+3)(x+1)}$ in partial fractions

$$\frac{2x-1}{(2x+3)(x+1)} \equiv \frac{A}{2x+3} + \frac{B}{x+1}$$

$$\therefore 2x-1 \equiv A(x+1) + B(2x+3)$$

$$\begin{aligned} \text{When } x = -1, \quad -3 &= B \\ \therefore B &= -3 \end{aligned}$$

$$\begin{aligned} \text{When } x = -\frac{3}{2}, \quad -4 &= -\frac{A}{2} \\ \therefore -8 &= -A \\ \therefore A &= 8 \end{aligned}$$

$$\therefore \frac{2x-1}{(2x+3)(x+1)} \equiv \frac{8}{2x+3} - \frac{3}{x+1}$$



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