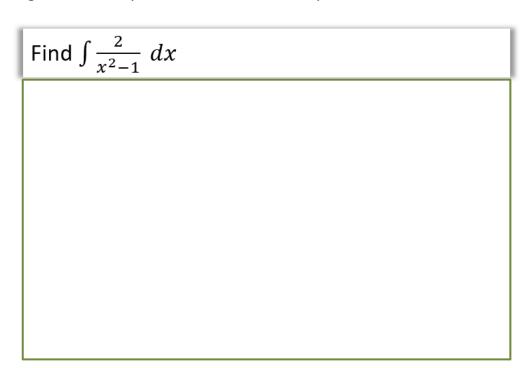
SKILL #7: Using Partial Fractions

We saw earlier that we can split some expressions into partial fractions. This allows us to integrate some expressions with more complicated denominators.



Further Examples

Find
$$\int \frac{x-5}{(x+1)(x-2)} dx$$

Find
$$\int \frac{8x^2 - 19x + 1}{(2x+1)(x-2)^2} dx$$

Test Your Understanding

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$$f(x) = \frac{4-2x}{(2x+1)(x+1)(x+3)} = \frac{A}{(2x+1)} + \frac{B}{(x+1)} + \frac{C}{(x+3)} \ .$$

(a) Find the values of the constants A, B and C. (4)

(b) (i) Hence find
$$\int f(x) dx$$
. (3)

(ii) Find $\int_{0}^{2} f(x) dx$ in the form $\ln k$, where k is a constant. (3)