

Separate the following into sums of partial fractions (show work on a separate piece of paper)

1.

Express the following as a sum of partial fractions

a)  $\frac{2x - 1}{(x + 2)(x - 3)}$    b)  $\frac{2x + 5}{(x - 2)(x + 1)}$    c)  $\frac{3}{(x - 1)(2x - 1)}$    d)  $\frac{1}{(x + 4)(x - 2)}$

2.

a)  $\frac{5x^2 + 17x + 15}{(x + 2)^2(x + 1)}$     b)  $\frac{x}{(x - 3)^2(2x + 1)}$     c)  $\frac{x^2 + 1}{(x - 1)^2(x + 1)}$

Over→

## Integrate using Partial Fractions

① Find each of the following integrals by expressing the integrand in partial fractions.

$$(a) \int \frac{1}{(x+2)(x+1)} dx \quad (b) \int \frac{x}{(2x+3)(x-4)} dx \quad (c) \int \frac{3x+2}{(x-1)(x+7)} dx$$

Over→

2 Integrate each of the following by expressing the integrand in partial fractions.

(a)  $\int \frac{1}{(x+3)^2(x-1)} dx$       (b)  $\int \frac{2x+1}{(x+2)^2(x+1)} dx$       (c)  $\int \frac{x+1}{x(x-7)^2} dx.$