

## Section 3: Partial fractions

### Exercise level 1

1. Calculate the values of the constants  $A$  and  $B$  for which:

$$(i) \quad \frac{1}{x(x+1)} \equiv \frac{A}{x} + \frac{B}{x+1}$$

$$(ii) \quad \frac{14x}{(2x-1)(x+3)} \equiv \frac{A}{2x-1} + \frac{B}{x+3}$$

2. Calculate the values of the constants  $A$ ,  $B$  and  $C$  for which

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

3. Calculate the values of  $A$  and  $B$  for which

$$(i) \quad \frac{2x}{(x-1)^2} \equiv \frac{A}{x-1} + \frac{B}{(x-1)^2}$$

$$(ii) \quad \frac{3x+2}{(2-3x)^2} \equiv \frac{A}{2-3x} + \frac{B}{(2-3x)^2}$$