

Exercise A

1 a $\frac{4}{x+3} + \frac{2}{x-2}$

b $\frac{3}{x+1} - \frac{1}{x+4}$

c $\frac{3}{2x} - \frac{5}{x-4}$

d $\frac{4}{2x+1} - \frac{1}{x-3}$

e $\frac{2}{x+3} + \frac{4}{x-3}$

f $\frac{2}{x+1} - \frac{1}{x-4}$

g $\frac{2}{x} - \frac{3}{x+4}$

h $\frac{3}{x+5} - \frac{1}{x-3}$

2 $A = \frac{1}{2}, B = -\frac{3}{2}$

3 $A = 24, B = -2$

4 $A = 1, B = -2, C = 3$

5 $D = -1, E = 2, F = -5$

6 $\frac{3}{x+1} - \frac{2}{x+2} - \frac{6}{x-5}$

7 a $\frac{3}{x} - \frac{2}{x+1} + \frac{5}{x-1}$

b $\frac{-1}{5x+4} + \frac{2}{2x-1}$

Challenge

$\frac{6}{x-2} + \frac{1}{x+1} - \frac{2}{x-3}$

Exercise B

1 $A = 0, B = 1, C = 3$

2 $D = 3, E = -2, F = -4$

3 $P = -2, Q = 4, R = 2$

4 $C = 3, D = 1, E = 2$

5 $A = 2, B = -4$

6 $A = 2, B = 4, C = 11$

7 $A = 4, B = 1$ and $C = 12$.

8 a $\frac{4}{x+5} - \frac{19}{(x+5)^2}$

b $\frac{2}{x} - \frac{1}{2x-1} + \frac{6}{(2x-1)^2}$

Exercise C

1 $A = 1, B = 1, C = 2, D = -6$

2 $a = 2, b = -3, c = 5, d = -10$

3 $p = 1, q = 2, r = 4$

4 $m = 2, n = 4, p = 7$

5 $A = 4, B = 1, C = -8$ and $D = 3$.

6 $A = 4, B = -13, C = 33$ and $D = -27$

7 $p = 1, q = 0, r = 2, s = 0$ and $t = -6$

8 $a = 2, b = 1, c = 1, d = 5$ and $e = -4$

9 $A = 3, B = -4, C = 1, D = 4, E = 1$

10 a $(x^2 - 1)(x^2 + 1) = (x - 1)(x + 1)(x^2 + 1)$

b $(x - 1)(x^2 + 1), a = 1, b = -1, c = 1, d = 0$ and $e = 1$.