Revision – Algebraic Fractions 1

1.

Express $\frac{4}{x-1} - \frac{3}{x+1}$ as a single fraction.

Give your answer as simply as possible.

2.

Simplify,

(a)

$$\frac{4}{5x+3} - \frac{2}{3x-1}$$

(b)

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

(c)

$$\frac{5}{(2x-3)(x+6)} + \frac{4}{(x+6)(3x+1)}$$

(d)

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

3.

Simplify fully $\frac{5}{2x-6} - \frac{x+2}{x^2-4x+3}$

4.

Simplify fully $\frac{x^2-16}{x^2-6x+8}$

5.

Simplify fully $\frac{4x^2-25}{6x^2+13x-5}$

6.

Show that $\frac{x^2+3x}{2x^2+5x-3}$ can be written as $\frac{x}{kx-1}$

State the value of k.

7.

Solve $\frac{5}{(x+2)}+\frac{9}{(x-2)}=2$

Show clear algebraic working.

8.

Solve $\frac{3}{(x+1)}+\frac{2}{(2x-3)}=1$

Show clear algebraic working.

9.

Solve $\frac{6x-1}{4}-\frac{5-2x}{2}=1$

Show clear algebraic working.

10.

Solve the equation $\frac{3}{(x+2)}+\frac{4}{(x-3)}=2$

Show clear algebraic working.

11.

$2-\frac{x+2}{x-3}-\frac{x-6}{x+3}$ can be written as a single fraction in the form $\frac{ax+b}{x^2-9}$ where a and b are integers.

Work out the value of a and the value of b.