Algebraic Fractions

1. Express as a single fraction in its simplest form.

(a) $\frac{4}{x} + \frac{1}{x-1}$ $x \neq 0,1$

(b) $\frac{1}{x} - \frac{2}{x-2}$ $x \neq 0,2$

(c) $\frac{2}{(p+3)} + \frac{5}{p}$ $p \neq 0,-3$

(d) $\frac{4}{2x-1} - \frac{2}{x}$ $x \neq 0,\frac{1}{2}$

(e) $\frac{5}{x-1} + \frac{1}{x+1}$ $x \neq -1,1$

(f) $\frac{5}{(u-4)} - \frac{10}{2u+1}$ $u \neq -\frac{1}{2},4$

(g) $\frac{7}{5x-2} + \frac{1}{x}$ $x \neq 0, \frac{2}{5}$

(h) $\frac{6}{2y-1} - \frac{3}{y}$ $y \neq 0,\frac{1}{2}$

(i) $\frac{4}{(2x+5)} + \frac{5}{x}$ $x \neq -\frac{5}{2},0$

(j) $\frac{1}{x-5} + \frac{1}{x+5}$ $x \neq -5,5$

(k) $\frac{1}{3x-1} - \frac{1}{3x+1}$ $x \neq -\frac{1}{3},\frac{1}{3}$

(l) $\frac{4}{n-8} - \frac{1}{n-2}$ $n \neq 2,8$

(m) $\frac{5}{c} - \frac{3}{(c-2)}$ $c \neq 0,2$

(n) $\frac{6}{3x-4} - \frac{2}{x-1}$ $x \neq 1,\frac{4}{3}$

(o) $\frac{2}{2d-5} - \frac{3}{3d-7}$ $d \neq \frac{5}{2},\frac{7}{3}$

(p) $\frac{1}{2a+3} + \frac{1}{a-3}$ $a \neq -\frac{3}{2},3$

2. Express as a single fraction in its simplest form.

(a) $\frac{1}{2x} + \frac{1}{3x}$ $x \neq 0$

(b) $\frac{2}{3p} - \frac{1}{4p}$ $p \neq 0$

(c) $\frac{5}{3a} - \frac{1}{2a}$ $a \neq 0$

(d) $\frac{2}{3x} + \frac{4}{5x}$ $x \neq 0$

(e) $\frac{1}{x} + \frac{2}{x^2}$ $x \neq 0$

(f) $\frac{3}{x^2} - \frac{2}{x}$ $x \neq 0$

(g) $\frac{4}{m} - \frac{2}{m^3}$ $m \neq 0$

(h) $\frac{6}{n^2} + \frac{1}{n^3}$ $n \neq 0$

(i) $\frac{1}{2x} - \frac{1}{x^2}$ $x \neq 0$

(j) $\frac{2}{p^3} - \frac{1}{3p}$ $p \neq 0$

(k) $\frac{3}{4w} + \frac{2}{w^2}$ $w \neq 0$

(l) $\frac{5}{3u} + \frac{1}{u^2}$ $u \neq 0$