

## Algebra Topics: Algebraic Fractions

**Example.**

Express the following as a single fraction in its simplest form  $\frac{3}{2x-1} - \frac{2}{3x-2}$

$$\begin{aligned} \frac{3}{2x-1} - \frac{2}{3x-2} &= \frac{3(3x-2) - 2(2x-1)}{(2x-1)(3x-2)} \\ &= \frac{9x-6-4x+2}{(2x-1)(3x-2)} \\ &= \frac{5x-4}{(2x-1)(3x-2)} \end{aligned}$$

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

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

2. Simplify

$$\frac{n+1}{n} - \frac{n}{n+1} \quad [4]$$

3. Express the following as a single fraction in its simplest form

a.)  $\frac{3}{2ab} + \frac{4}{3bc}$

b.)  $\frac{2}{a+1} + \frac{3}{a+2}$

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

d.)  $\frac{5}{a+4} - \frac{2}{a-2}$

e.)  $5 - \frac{a-b}{c}$

f.)  $3 + \frac{2b}{a-b}$

g.)  $2 - \frac{x}{x+2y}$

h.)  $\frac{7u}{2u+3v} - 3$

i.)  $\frac{x+1}{x+2} + \frac{x+3}{x+4}$

j.)  $\frac{a-2}{a+2} - \frac{a-1}{a+3}$

