

ALGEBRAIC FRACTIONS

Examiner
only
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24. Express the following as a single fraction in its simplest form.

(X)

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

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

$$= \frac{35x+14 - 10x-15}{(2x+3)(5x+2)}$$

$$= \frac{25x-1}{(2x+3)(5x+2)}$$

[4]

14. (a) Express $\frac{x}{x-3} - \frac{x}{x+6}$ as a single fraction in its simplest form.

$$= \frac{x(x+6) - x(x-3)}{(x-3)(x+6)}$$

$$= \frac{x^2 + 6x - x^2 + 3x}{(x-3)(x+6)}$$

$$= \frac{9x}{(x-3)(x+6)}$$

24. Express $\frac{n}{n-3} - \frac{n}{n+2}$ as a single fraction in its simplest terms.

$$= \frac{n(n+2) - n(n-3)}{(n-3)(n+2)}$$

$$= \frac{n^2 + 2n - n^2 + 3n}{(n-3)(n+2)}$$

$$= \frac{5n}{(n-3)(n+2)}$$

[3]

[5]

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

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

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

$$= \frac{12x^2 + 4x + 9x + 3 - 1(12x^2 - 6x - 10x + 5)}{(2x-1)(3x+1)}$$

$$= \frac{12x^2 + 13x + 3 - 12x^2 + 6x + 10x - 5}{(2x-1)(3x+1)}$$

$$= \frac{29x - 2}{(2x-1)(3x+1)}$$