



## National 5 Mathematics

### Algebraic Fractions - Questions

Marks are indicated in brackets after each question number

#### **2014 Paper 2 Question 9, (3)**

Express  $\frac{7}{x+5} - \frac{3}{x}$   $x \neq -5, x \neq 0$  as a single fraction in its simplest form.

#### **2015 Paper 1 Question 12, (3)**

Simplify  $\frac{x^2 - 4x}{x^2 + x - 20}$ .

#### **2016 Paper 2 Question 13, (3)**

Express

$$\frac{3}{x-2} + \frac{5}{x+1}, \quad x \neq 2, x \neq -1$$

as a single fraction in its simplest form.

#### **2017 Paper 1 Question 11, (2)**

Express  $\frac{3}{a^2} - \frac{2}{a}$ ,  $a \neq 0$ , as a single fraction in its simplest form.

#### **2017 Paper 2 Question 9, (1) (3)**

(a) Factorise  $4x^2 - 25$ .

(b) Hence simplify  $\frac{4x^2 - 25}{2x^2 - x - 10}$ .



**2018 Paper 2 Question 15, (3)**

Express

$$\frac{n}{n^2-4} \div \frac{3}{n-2}, \quad n \neq -2, n \neq 2$$

as a single fraction in its simplest form.

**2019 Paper 2 Question 15, (3)**

Express

$$\frac{4}{x-2} - \frac{3}{x+5}, \quad x \neq 2, x \neq -5$$

as a single fraction in its simplest form.

**2022 Paper 1 Question 12, (2)**

Express  $\frac{4}{x+2} \div \frac{5}{(x+2)^2}$ ,  $x \neq -2$  as a single fraction in its simplest form.

**2022 Paper 2 Question 12, (3)**

Simplify  $\frac{2ab+6a}{b^2-9}$ .

**2023 Paper 2 Question 10, (3)**

Express

$$\frac{7}{x-3} - \frac{2}{x}, \quad x \neq 3, x \neq 0$$

as a single fraction in its simplest form.



2023 Paper 2 Question 12, (3)

Simplify  $\frac{x^2 - 16}{x^2 + x - 20}$ .

2024 Paper 2 Question 7, (1) (2)

(a) Factorise  $y^2 - 6y$ .

(b) Hence simplify  $\frac{y^2 - 6y}{y^2 - 3y - 18}$ .

2024 Paper 2 Question 12, (3)

Express

$$\frac{2}{x+5} + \frac{3}{x-4}, \quad x \neq -5, x \neq 4$$

as a single fraction in its simplest form.

2025 Paper 1 Question 14, (3)

Express

$$\frac{5}{x-1} - \frac{4}{x}, \quad x \neq 1, x \neq 0$$

as a single fraction in its simplest form.