

# Algebraic Fractions

## Question Paper

Course	Edexcel IGCSE Maths
Section	2. Equations, Formulae & Identities
Topic	Algebraic Fractions
Difficulty	Medium

**Time allowed:** 50  
**Score:** /38  
**Percentage:** /100

### Question 1

Write as a single fraction in its simplest form

$$\frac{2}{y+3} - \frac{1}{y-6}$$

[3 marks]

### Question 2

Write  $\frac{5}{x-3} - \frac{4}{x+3}$  as a single fraction in its simplest form.

[3 marks]

### Question 3

Simplify  $\frac{x+1}{2} + \frac{x+3}{3}$

[3 marks]

**Question 4**

Simplify  $\frac{4(x+5)}{x^2+2x-15}$

[2 marks]

**Question 5**

Simplify  $\frac{3(x+1)}{(x+1)^2}$

[1 mark]

**Question 6**

Express

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

as a single fraction in its simplest form.

[3 marks]

**Question 7**

Express  $\frac{4}{x-2} - \frac{3}{x+1}$  as a single fraction.

Give your answer in its simplest form.

[3 marks]

**Question 8**

Write  $\frac{2x+1}{4} + \frac{x-2}{3}$  as a single fraction in its simplest form.

[3 marks]

**Question 9**

Write as a single fraction  $\frac{2}{3x} + \frac{4}{5x} - \frac{9}{10x}$

Give your answer in its simplest form.

[2 marks]

**Question 10**

Simplify fully  $\frac{10x^2 + 23x + 12}{4x^2 - 9}$

[3 marks]

### Question 11

Simplify  $\frac{3}{x} + \frac{4}{x}$

Circle your answer.

$$\frac{7}{x}$$

$$\frac{7}{2x}$$

$$\frac{12}{x}$$

$$\frac{12}{x^2}$$

[1 mark]

### Question 12

Simplify  $\frac{25a}{8} \times \frac{2a}{5}$

Give your answer as a single fraction in its simplest form.

[2 marks]

### Question 13

Show that, for  $x \neq 0$

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

can be written in the form  $\frac{ax + b}{cx}$  where  $a$ ,  $b$  and  $c$  are integers.

[3 marks]

### Question 14

Circle the expression that is equivalent to  $\frac{3x^2}{6x^2 + 3}$

$$\frac{x^2}{2x^2 + 3}$$

$$\frac{x^2}{6x^2 + 1}$$

$$\frac{x^2}{2x^2 + 1}$$

$$\frac{1}{2} + x^2$$

[1 mark]

### Question 15

Write as a single fraction in its simplest form.

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

[3 marks]

### Question 16

Express as a single fraction.

$$\frac{m+1}{n+1} - \frac{m}{n}$$

Simplify your answer.

[2 marks]

