



# EXAM PAPERS PRACTICE

## Algebraic Fractions

### Question Paper



## EXAM PAPERS PRACTICE

### Question 1

Write as a single fraction in its simplest form.

$$\frac{5}{x-3} + \frac{3}{x+7} + \frac{1}{2} \quad [4]$$

### Question 2

Write as a single fraction in its simplest form.

$$\frac{x+1}{x} - \frac{y-1}{y} \quad [3]$$



## EXAM PAPERS PRACTICE

### Question 3

Write as a single fraction in its simplest form.

(a)  $\frac{x^2 - 3x}{x^2 - 9}$

[3]

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

[3]

### Question 4

Simplify.

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

[2]



### Question 5

Write as a single fraction.

$$1 - \frac{2}{p} - \frac{3}{t}$$

[2]

### Question 6

Simplify.

$$\frac{42np - 7n}{12pt - 2t + 18mp - 3m}$$

[4]



### Question 7

Simplify.

$$\frac{4 + 10w}{8 - 50w^2}$$

[4]

### Question 8

Write as a single fraction in its simplest form.

$$3 - \frac{t+2}{t-1}$$

[3]

## Question 9

Write as a single fraction, in its simplest form.

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

[4]



### Question 10

(a) Write  $\frac{1}{y} - \frac{2}{x}$  as a single fraction in its lowest terms. [2]

(b) Write  $\frac{x^2+x}{3x+3}$  in its lowest terms. [3]

### Question 11

Write as a single fraction in its simplest form [2]

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



### Question 12

Write as a single fraction in its simplest form

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

### Question 13

Simplify  $\frac{x}{3} + \frac{5x}{9} - \frac{5x}{18}$ . [2]





### Question 14

Write as a fraction in its simplest form

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

### Question 15

Write as a single fraction in its simplest form

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



### Question 16

Simplify

$$\frac{x+2}{x} - \frac{x}{x+2}$$

Write your answer as a fraction in its simplest form.

[3]

### Question 17

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

[3]

(b) Solve the equation  $\frac{3}{x} - \frac{2}{x+1} = 0$ .

[1]



### Question 18

Work out as a single fraction

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

### Question 19

Write  $2x - \frac{10x}{5-x}$  as a single fraction. [2]



### Question 20

Write as a single fraction in its simplest form.

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

### Question 21

Write the following as a single fraction in its simplest form.

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



## Question 22

Simplify the following.

$$\frac{h^2 - h - 20}{h^2 - 25} \quad [4]$$

## Question 23

Simplify fully.

$$\frac{x^2 - x - 20}{x^3 - 10x^2 + 25x} \quad [5]$$



### Question 24

Write as a single fraction in its simplest form.

$$\frac{3}{x+10} - \frac{1}{x+4} \quad [3]$$

### Question 25

Write the following as a single fraction in its simplest form.

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



### Question 26

Write  $\frac{2}{x-2} + \frac{3}{x+2}$  as a single fraction.

Give your answer in its simplest form.

[3]

### Question 27

Write as a single fraction in its simplest form.

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

[2]



### Question 28

Simplify this fraction.

$$\frac{x^2 - 5x + 6}{x^2 - 4} \quad [4]$$

### Question 29

Write as a single fraction, in its simplest form.

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





### Question 30

Write as a single fraction in its simplest form.

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

### Question 31

Simplify.  $\frac{x^2 - 16}{x^2 - 3x - 4}$  [4]



### Question 32

Write as a single fraction in its simplest form.

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

[3]



### Question 33

(a) Write as a single fraction in its simplest form.

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

(b) Simplify.

$$\frac{4x^2 - 16x}{2x^2 + 6x - 56} \quad [4]$$



### Question 34

Write as a single fraction, in its simplest form.

[4]

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

### Question 35

Write as a single fraction in its simplest form.

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

[3]



### Question 36

Solve the equation.

$$\frac{3}{2x} + \frac{1}{x+1} = 0 \quad [3]$$

### Question 37

Simplify.

$$\frac{x^2 + 6x - 7}{3x + 21} \quad [4]$$



### Question 38

(a) Factorise  $x^2 + x - 30$ . [2]

(b) Simplify  $\frac{(x - 5)(x + 4)}{x^2 + x - 30}$ . [1]

### Question 39

Write as a single fraction in its simplest form.

$$\frac{2}{x+3} + \frac{3}{x+2} \quad [3]$$