

AQA, OCR, Edexcel

GCSE

GCSE Maths

Algebraic Fractions Answers

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Total Marks: /39

Algebraic Fractions

1. Simplify the following:

$$\text{a. } \frac{4m+1}{4} + \frac{1-3m}{3} = \frac{7}{12}$$

$$\text{b. } \frac{4m-1}{4} + \frac{5-6m}{6} = \frac{7}{12}$$

$$\text{c. } \frac{3m+1}{3} + \frac{4m-1}{4} = \frac{12m+1}{12}$$

$$\text{d. } \frac{3m+2}{6} + \frac{2-4m}{8} = \frac{7}{12}$$

(16 Marks)

2. Simplify the following:

$$\text{a. } \frac{x^2-49}{x^2+9x+14} = \frac{x-7}{x+2}$$

$$\text{b. } \frac{4x^2-25}{2x^2+7x+5} = \frac{2x-5}{x+1}$$

$$\text{c. } \frac{9x^2-36}{3x^2-3x-6} = \frac{3x+6}{x+1}$$

(9 Marks)

3. Write the following as single fractions:

$$\text{a. } \frac{3}{x+2} + \frac{2}{x-4} = \frac{5x-8}{x^2-2x-8}$$

$$\text{b. } \frac{10}{2x-3} - \frac{3}{x+2} = \frac{4x+29}{2x^2+x-6}$$

$$\text{c. } \frac{20}{4x-10} - \frac{8}{3x-10} = \frac{28x-120}{12x^2-70x+100}$$

(9 marks)

4. Solve

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

$$\text{Step 1: } (x-3) + 2(x+2) = (x+2)(x-3)$$

$$\text{Step 2: } x-3+2x+4 = x^2-x-6$$

$$\text{Step 3: } x^2-4x-7 = 0$$

$$\text{Step 4: } (x-2)^2 - 11 = 0$$

$$\text{Step 5: } x = 2 \pm \sqrt{11}$$

(5 Marks)