

Simplifying Algebraic Fractions

For Pearson Edexcel GCSE Mathematics (1MA1) • Higher tier

Name _____

Total marks: **26**

Answer **all** questions in the spaces provided. Show your working: marks are given for correct method.

1 Simplify fully

(a) $\frac{x+3}{4(x+3)^2}$

.....
(1)

(b) $\frac{10x^3y^2}{15x^5y}$

.....
(2)

(c) $\frac{6x+18}{x^2-9}$

.....
(2)

(Total for Question 1 is 5 marks)

2 Simplify fully $\frac{x^2 - 16}{x^2 + 2x - 8}$

.....
(3)

(Total for Question 2 is 3 marks)

3 Simplify fully $\frac{x^2 + 5x}{2x^2 + 7x - 15}$

.....
(3)

(Total for Question 3 is 3 marks)

4 Simplify fully $\frac{3x^2 - 7x - 6}{x^2 - 9}$

.....
(3)

(Total for Question 4 is 3 marks)

5 Simplify fully $\frac{2x^2 - 7x - 4}{3x^2 - 12x}$

.....
(3)

(Total for Question 5 is 3 marks)

6 Write $\frac{25x^2 - 1}{10x^2 + 2x}$ in the form $\frac{ax + b}{cx}$ where a , b and c are integers.

.....
(3)

(Total for Question 6 is 3 marks)

7 Show that $\frac{x^2 - 2x - 15}{2x^2 + 7x + 3}$ can be written in the form $\frac{ax + b}{cx + d}$ where a , b , c and d are integers.

(3)

(Total for Question 7 is 3 marks)

8 Simplify fully $\frac{16 - x^2}{x^2 - 3x - 4}$

.....

(3)

(Total for Question 8 is 3 marks)
