Partial Fractions
Difficulty: Easy

Question Paper 1

Level	A Level only
Subject	Maths - Pure
Exam Board	Edexcel
Topic	Algebraic Methods
Sub-Topic	Partial Fractions
Difficulty	Easy
Booklet	Question Paper 1

Time allowed: **37 minutes**

Score: **/31**

Percentage: **/100**

Grade Boundaries:

A*	A	B	C	D	E	U
>76%	61%	52%	42%	33%	23%	<23%

(a) Express $\dfrac{2x-1}{(x-1)(2x-3)}$ in partial fractions.

(Total 3 marks)

Question 2

Show that $\dfrac{6(x+7)}{(5x-1)(2x+5)}$ can be written in the form $\dfrac{A}{5x-1}+\dfrac{B}{2x+5}$

Find the values of the constants A and B.

(5)

(Total 5 marks)

$$f(x) = \frac{1+14x}{(1-x)(1+2x)}, \qquad |x| < \frac{1}{2}.$$

(a) Express f(x) in partial fractions. (3)

(Total 3 marks)

Question 4

$$f(x) = \frac{4x^2 + x - 23}{(x-3)(4-x)(x+5)}, \quad x > 4.$$

Given that f(x) can be expressed in the form $\dfrac{A}{x-3} + \dfrac{B}{4-x} + \dfrac{C}{x+5}$, find the values of A, B and C.

(Total 6 marks)

Given that

$$\frac{11x - 1}{(1 - x)^2 (2 + 3x)} = \frac{A}{(1 - x)^2} + \frac{B}{(1 - x)} + \frac{C}{(2 + 3x)},$$

(a) find the values of A, B and C.

(4)

(Total 4 marks)

Question 6

$$\frac{9x^2}{(x-1)^2 (2x+1)} = \frac{A}{(x-1)} + \frac{B}{(x-1)^2} + \frac{C}{(2x+1)}$$

Find the values of the constants A, B and C.

(4)

(Total 4 marks)

$$\frac{18x^2 - 98x + 78}{(x-4)^2(3x+1)} = \frac{A}{x-4} + \frac{B}{(x-4)^2} + \frac{C}{3x+1}, \quad x > 4$$

Find the values of the constants A, B and C.

(6)

(Total 6 marks)