1.11 Pure: Algebra and Functions Depth: 10-minute Pack

EDEXCEL 9MA0 · Calculator allowed · about 10 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 (5x + 7) / ((x + 2)(x - 1)), x is real, x not equal to -2 or 1.

(a) Express (5x + 7) / ((x + 2)(x - 1)) in partial fractions. **(4)**

(b) State the two values of x for which the partial fraction expression is not valid. **(2)**

(c) Find the exact value of (5x + 7) / ((x + 2)(x - 1)) when x = 3, using both the original expression and the partial fraction form, showing they agree. **(2)**

(Total for Question 1 is 8 marks)

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Mark scheme · 1.11 Pure: Algebra and Functions Depth: 10-minute Pack

Question 1

(a) writes (5x+7)/((x+2)(x-1)) = A/(x+2) + B/(x-1) and forms the identity 5x + 7 = A(x - 1) + B(x + 2)	**M1**
(a) substitutes x = 1 (or x = -2) to find one constant	**M1**
(a) A = 1	**A1**
(a) B = 4 oe	**A1**
(a) Answer: 1/(x + 2) + 4/(x - 1)	
(b) x = -2 stated	**B1**
(b) x = 1 stated	**B1**
(b) Answer: x = -2 and x = 1	
(c) substitutes x = 3 into both the original expression and the partial fraction form	**M1**
(c) both give 11/5 (= 2.2) cao	**A1**
(c) Answer: 11/5 (= 2.2)	

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