

Pearson Edexcel A Level Mathematics 9MA0

Unit Test 5 Binomial Theorem

Time allowed: 50 minutes

School: [www.CasperYC.club](http://www.CasperYC.club)

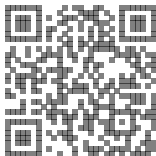
Name:

Teacher:

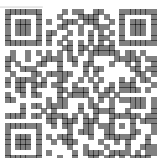
How I can achieve better:

- 
- 
- 

Question	Points	Score
1	10	
2	6	
3	9	
4	12	
5	13	
Total:	50	

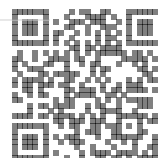


- Total: 10



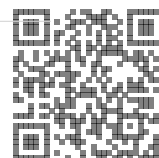
(b) the corresponding coefficients of the  $x^3$  term. [2]

Total: 6



$$4 - \frac{1}{8}x + cx^2 + \dots$$

- Total: 9



4.

$$f(x) = \frac{6}{2+3x} - \frac{4}{3-5x}, \quad |x| < \frac{3}{5}.$$

- (a) Show that the first three terms in the series expansion of  $f(x)$  can be written as [7]

$$\frac{5}{3} - \frac{121}{18}x + \frac{329}{108}x^2.$$

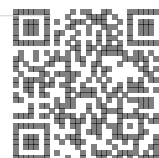
- (b) Find the exact value of  $f(0.01)$ . [2]

Round your answer to 7 decimal places.

- (c) Find the percentage error made in using the series expansion in part (a) to estimate the value of  $f(0.01)$ . [3]

Give your answer to 2 significant figures.

Total: 12



$$\frac{4x^2 - 4x - 9}{(2x + 1)(x - 1)} \equiv A + \frac{B}{2x + 1} + \frac{C}{x - 1}$$

- Total: 13

