AQA, Edexcel, OCR, MEI

A Level

A Level Mathematics

C3 Proof

Name:

MME

Mathsmadeeasy.co.uk

Total Marks: /22

1. All integers are even. True or false? Prove your claim. [1]

2. Prove that the number made by adding any integer to itself once is even. [2]

3. Prove that the product of three consecutive even numbers is divisible by 4. [4]

4. If we think of an integer, square it, and then add this to twice the original number, then this new number is the product of two consecutive integers. True or False? Prove your claim. [4]

5. If n is a positive integer then $n^3 + n$ is even. True or false? Prove your claim. [3]

6. If n is a number between 2 and 5, then $n^3 + n$ is has a factor of 5. True or false? Prove your claim. [3]

7. All straight lines in the xy plane have a gradient of 1. True of False? Prove your claim. [2]

8. The value of the function $f(x) = x^2 - 2x - 1$ is always greater than (or equal to) -2. True of False? Prove your claim. [3]