Proof – A2 Mathematics P3

1. June/2022/Paper_7357/03/No.9

Assume that a and b are integers such that

$$a^2 - 4b - 2 = 0$$

(a)   Prove that a is even.

[2 marks]

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(b)   Hence, prove that $2b + 1$ is even and explain why this is a contradiction.

[3 marks]

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(c)   Explain what can be deduced about the solutions of the equation

$$a^2 - 4b - 2 = 0$$

[1 mark]

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[1 mark]