

UNIVERSITY OF LONDON
BSc and MSci EXAMINATIONS (MATHEMATICS)
May-June 2006

This paper is also taken for the relevant examination for the Associateship.

M3H
History of Mathematics

Date: Friday, 12th May 2006 Time: 2 pm – 4 pm

Answer TWO questions.

Calculators may not be used.

1. Explain Pythagoras's Theorem and discuss Pythagorean numbers by reference to at least two civilisations.

By what means (*formulae*) is it thought that Pythagorean numbers were obtained? Give examples.

2. Discuss the evolution of the concept of irrationality by reference to the Babylonian, Greek and Western European (*17th Century*) civilisations. Include ideas of approximation (*Babylon*), proof of irrationality (*Greece*) and of an irrational number being given by a series (*Gregory, Leibniz*).

3. Discuss the development of knowledge of linear, quadratic, cubic and higher equations by reference, for example, to the work of Chinese, Arabic and European (*Italian*) mathematicians.

4. Discuss the development of the calculation of Areas and Volumes through the Egyptian, Greek and Western European (*17th Century*) civilisations.

5. Write an essay on a topic of your choice from the History of Mathematics.

Note

- (a) The essay topic must be one that has not been covered in the lectures.
- (b) The sources should be stated clearly.
- (c) The initiative shown will contribute substantially to the marks given.