

## 2007 Paper 6 Question 5

### Computer Graphics and Image Processing

- (a) Explain what a *MIPmap* is, how to create one, why one would want to use one, where one would be used, and how one is used. [8 marks]
- (b) Describe an algorithm that converts a greyscale image into a black and white image using halftoning. Assume that the black and white image has eight times the resolution of the greyscale image in each dimension. [6 marks]
- (c) Various types of visual artifact (“aliasing”) occur if images are rendered using only one sample per pixel.
- (i) Describe at least *three* different artifacts that occur. [3 marks]
- (ii) Describe a straightforward method to ameliorate these artifacts. [3 marks]