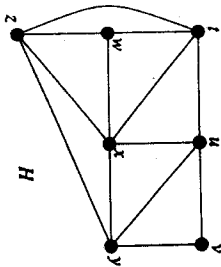
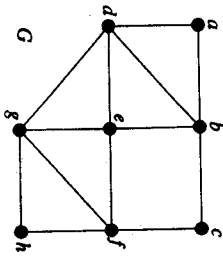


MATH1061 — DISCRETE MATHEMATICS
 First Semester Examination, June 2001 (continued)

7. (5 marks) For each of the following two graphs G and H , either find an Euler circuit in that graph, or else explain why an Euler circuit does not exist in that graph.



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8. (7 marks)

(a) Evaluate $\frac{4 \times \binom{7}{4}}{\binom{6}{3}}$. Please show your working.

- (b) A coin is tossed 6 times. In each case the outcome (H for heads or T for tails) is recorded. (One possible outcome is for example, H T T H H H.)
- (i) What is the total number of possible outcomes of this coin-tossing experiment?
- (ii) In how many of the possible outcomes are exactly 4 tails obtained?
- (iii) In how many of the possible outcomes are at least 3 heads obtained?
- (iv) What is the probability that at least 3 heads are obtained?