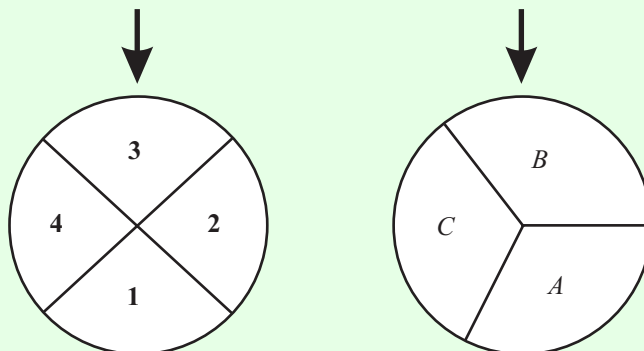


COUNTING & PROBABILITY (Q 6, PAPER 2)

2007

- 6 (a) One letter is chosen at random from the letters of the word EUCLID.
(i) Find the probability that the letter chosen is D.
(ii) Find the probability that the letter chosen is a vowel.
- (b) The diagram shows two wheels.



The first wheel is divided into four equal segments numbered 1, 2, 3 and 4. The second wheel is divided into three equal segments labelled A, B and C. A game consists of spinning the two wheels and noting the segments that stop at the arrows. For example, the outcome shown is (3, B).

- (i) Write down all the possible outcomes.
- (ii) What is the probability that the outcome is (2, C)?
- (iii) What is the probability that the outcome is an odd number with the letter A?
- (iv) What is the probability that the outcome includes the letter C?
- (c) (i) How many different three-digit numbers can be formed from the digits 2, 3, 4, 5, 6, if each of the digits can be used only once in each number?
- (ii) How many of the numbers are less than 400?
- (iii) How many of the numbers are divisible by 5?
- (iv) How many of the numbers are less than 400 and divisible by 5?

ANSWERS

- 6 (a) (i) $\frac{1}{6}$ (ii) $\frac{1}{3}$
(b) (i) (1, a), (1, b), (1, c), (2, a), (2, b), (2, c), (3, a), (3, b), (3, c)
(ii) $\frac{1}{12}$ (iii) $\frac{1}{6}$ (iv) $\frac{1}{3}$
(c) (i) 60 (ii) 24 (iii) 12 (iv) 6