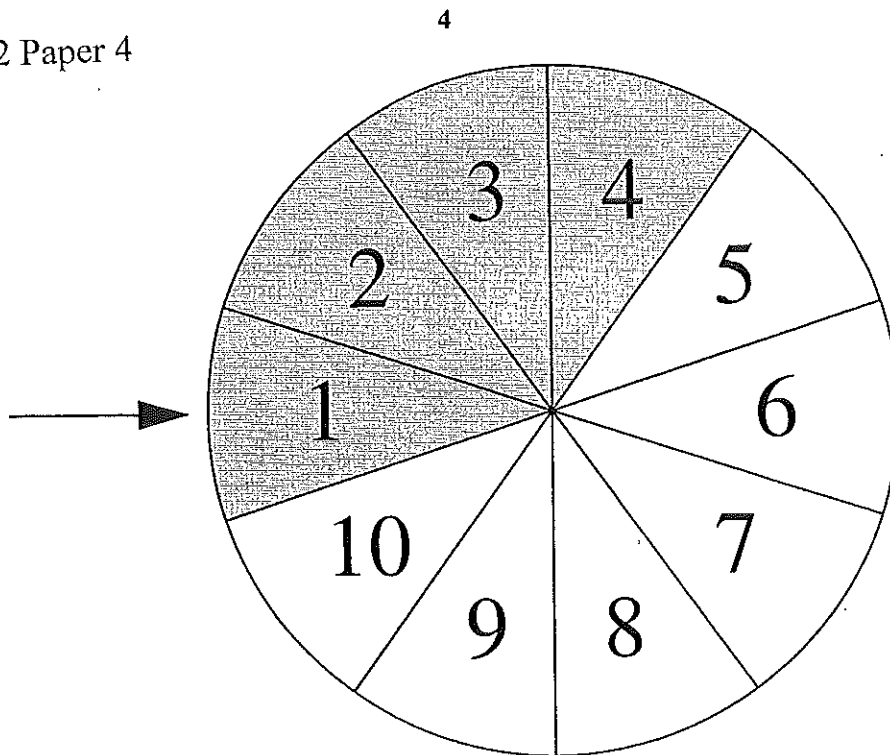# IGCSE – Independent events/tree diagrams

Oct 02 Paper 4

4

A wheel is divided into 10 sectors numbered 1 to 10 as shown in the diagram.
The sectors 1, 2, 3 and 4 are shaded.
The wheel is spun and when it stops the fixed arrow points to one of the sectors.
(Each sector is equally likely.)

(a)   The wheel is spun once so that one sector is selected. Find the probability that

    (i)   the number in the sector is even, [1]

    (ii)   the sector is shaded, [1]

    (iii)   the number is even **or** the sector is shaded, [1]

    (iv)   the number is odd **and** the sector is shaded. [1]

(b)   The wheel is spun twice so that each time a sector is selected. Find the probability that

    (i)   both sectors are shaded, [2]

    (ii)   one sector is shaded and one is not, [2]

    (iii)   the sum of the numbers in the two sectors is greater than 20, [2]

    (iv)   the sum of the numbers in the two sectors is less than 4, [2]

    (v)   the product of the numbers in the two sectors is a square number. [3]