MARKS

7

(6, 1)

6. Suppose that 1% of all drivers on the road on Sundays are intoxicated, and also suppose that a breathalyzer correctly indicates intoxication for 97% of all intoxicated drivers who are tested.
   (a) If the breathalyzer *in*correctly indicates intoxication for 0.5% of drivers who are tested but are *not* intoxicated, find the probability that a driver whose breathalyzer test is positive really is intoxicated.
   (b) Describe briefly what your calculations in (a) indicate about the accuracy required for the reading given by a breathalyzer.

(a)

(a)

Probability

(b)