

Send the task to: kmwr@o2.pl. The safest format is .pdf

Total time for the test: 13 minutes

1. During winter time the probability that a driver has a car accident is 0.04% if it snows and 0.03% if it doesn't snow. The probability that it snows on a given day is 30%.

a) Find the probability that a driver will have a car accident on a given day.

b) If the driver had a car accident on a given day what is the probability that it snowed?

(6p)

2. X is a random variable whose distribution is defined by

x	0	1	3
$P(X = x)$	0.2	0.3	0.5

a) Find, exactly, the standard deviation of X , simplifying the answer as far as possible.

b) Find the median and the 70th percentile of X , clearly justifying your answer.

(7p)