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MATHEMATICS

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A/L Mathematics E-I

Day task 15

1. Consider a random variable X , which represents the numbers drawn in a lottery. The possible outcomes of X are 1, 2, 3, 4, and 5. The probability mass function (PMF) of X is partially given in the table below: Given that the probability of stopping it at 3 is thrice the probability of stopping it at 5.

X	1	2	3	4	5
$P(X = x)$	0.1	0.3	p	0.2	q

- Work out the values of p and q
 - Find the expectation of the lottery.
 - Find $Var(X)$
2. Outcomes of a different lottery is given by Y and you are given that $Y = 2x - 1$. Find $E(Y)$ and $Var(Y)$.