6 A box contains 3 red balls and 5 white balls. One ball is chosen at random from the box and is not returned to the box. A second ball is now chosen at random from the box.

(i) Find the probability that both balls chosen are red. [1]

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(ii) Show that the probability that the balls chosen are of different colours is $\frac{15}{28}$. [2]

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(iii) Given that the second ball chosen is red, find the probability that the first ball chosen is red. [2]

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The random variable X denotes the number of red balls chosen.

(iv) Draw up the probability distribution table for X. [2]

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(v) Find Var(X). [3]

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