6 A bag contains 10 marbles, of which 4 are red and 6 are blue. Four marbles are selected from the bag at random, without replacement. The random variable X denotes the number of blue marbles selected.

(a) Show that $\mathrm{P}(X = 2) = \frac{3}{7}$. [2]

(b) Draw up the probability distribution table for X. [4]

(c) Find the probability that at least 2 of the marbles chosen are blue, given that at least 1 red marble and at least 1 blue marble are chosen. [3]

Additional page

If you use the following page to complete the answer to any question, the question number must be clearly shown.