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5. A bag contains a large number of 1p coins and 2p coins in the ratio 2 : 3 respectively.

A jar contains a large number of 2p coins and 5p coins in the ratio 1 : 4 respectively.

Two coins are selected at random from the bag and one coin is selected at random from the jar. The random variable T represents the total of the values of the 3 coins selected.

(a) Find the sampling distribution of T.

(7)

(b) Find the sampling distribution of the median of the values of the 3 selected coins.

(4)

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Q5