

Rosie sows 5 seeds in each of 150 plant pots. The number of seeds that germinate is recorded for each pot. The results are summarised in the following table.

Number of seeds that germinate	0	1	2	3	4	5
Number of pots	12	40	43	35	16	4

Rosie suggests that the number of seeds that germinate follows the binomial distribution $B(5, p)$.

(a) Use Rosie's results to show that $p = 0.42$. [1]

(b) Carry out a goodness of fit test, at the 10% significance level, to test whether the distribution $B(5, 0.42)$ is a good fit for the data. [9]