

Apples are sold in bags of 5. Based on her previous experience, Freya claims that the probability of any apple weighing more than 100 grams is 0.35, independently of other apples in the bag.

The apples in a random sample of 150 bags are checked and the number,  $x$ , in each bag weighing more than 100 grams is recorded. The results are shown in the following table.

$x$	0	1	2	3	4	5
Frequency	12	39	46	37	12	4

Carry out a goodness of fit test at the 5% significance level and hence comment on Freya’s claim. [7]