

5. The number of goals scored by a football team is recorded for 100 games. The results are summarised in Table 1 below.

Number of goals	Frequency
0	40
1	33
2	14
3	8
4	5

Table 1

- (a) Calculate the mean number of goals scored per game. (2)

The manager claimed that the number of goals scored per match follows a Poisson distribution. He used the answer in part (a) to calculate the expected frequencies given in Table 2.

Number of goals	Expected Frequency
0	34.994
1	r
2	s
3	6.752
≥ 4	2.221

Table 2

- (b) Find the value of r and the value of s giving your answers to 3 decimal places. (3)
- (c) Stating your hypotheses clearly, use a 5% level of significance to test the manager's claim. (7)



