Total marks	14
Time allowed	Approximately 25 minutes
Instructions	Answer ALL questions. Write answers in the spaces provided.

Question 1

Ten quadrats were placed at random positions in the field. The number of daisies in each quadrat was counted.

Quadrat number	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Number of daisies	12	8	15	6	10	14	9	11	13	7

A student uses quadrats to estimate the population of daisies in a 30 m × 20 m school field. Each quadrat is 1 m². The table shows the results.

[0 marks]

Question 2

Calculate the mean number of daisies per quadrat. Show your working.

[2 marks]

Question 3

Use your answer to estimate the total number of daisies in the whole field. Show your working.

[3 marks]

Question 4

Explain why the student should use random sampling rather than choosing where to place the quadrats.

[2 marks]

Question 5

Describe ONE way the student could use a transect to investigate how the distribution of daisies changes across the school field.

[3 marks]

Question 6

The student also measures the light intensity at each quadrat position. Explain why measuring abiotic factors is important in this investigation.

[2 marks]

★ **Higher Tier**

Question 7

A second student repeats the investigation using 20 quadrats instead of 10. Explain how this affects the reliability of the population estimate.

[2 marks]

END OF QUESTIONS — Total: 14 marks