

<b>Total marks</b>	14
<b>Time allowed</b>	Approximately 25 minutes
<b>Instructions</b>	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 m<sup>2</sup>. The table shows the results.

[0 marks]

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### Question 2

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

[2 marks]

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### Question 3

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

[3 marks]

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### Question 4

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

[2 marks]

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**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]

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**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]

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**END OF QUESTIONS — Total: 12 marks**