

## Adaptation, Interdependence and Competition

Total mark - 13

**Q1.**

The growth of daisy plants on a lawn is affected by biotic factors and by abiotic factors.

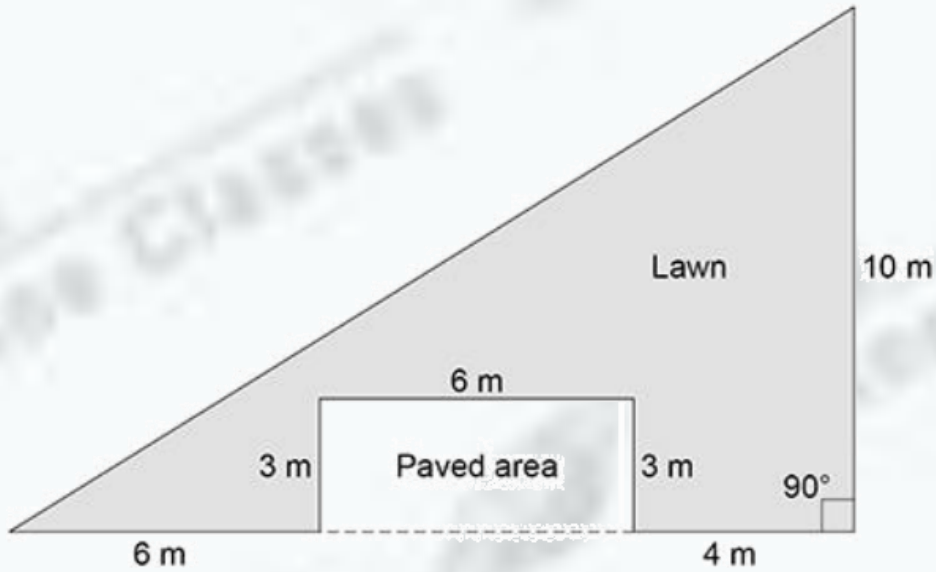
(a) The table below shows six factors.

Tick (✓) **one** box in each row to show whether the factor is biotic or abiotic.

Factor	Biotic	Abiotic
Nitrates in the soil		
Rabbits eating the plants		
Shading by a building		
Soil pH		
Temperature		
Trampling by people		

(3)

The figure below shows a plan of a garden.



A student estimates the number of daisy plants growing on the lawn.

The student places a quadrat at 10 different positions on the lawn.

The quadrat measures 50 cm × 50 cm.

The student counts the number of daisy plants in each quadrat.

- (b) How should the student decide where to place the quadrat?  
Give the reason for your answer.

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(2)

- (c) The mean number of daisy plants in each quadrat is 6.

Calculate the number of daisy plants on the lawn.

Give your answer to 3 significant figures.

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Number of daisy plants on the lawn = \_\_\_\_\_

(6)

- (d) Using the mean from this investigation to calculate the number of daisy plants on the lawn may **not** be accurate.

Give **two** reasons why.

1 \_\_\_\_\_

2 \_\_\_\_\_

(2)