

Poisson distribution – A2 Further Mathematics Statistics

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Daisies and dandelions are the only flowers growing in a field.

The number of daisies per square metre in the field has a mean of 16

The number of dandelions per square metre in the field has a mean of 10

The number of daisies per square metre and the number of dandelions per square metre are independent.

(a) Using a Poisson model, find the probability that a randomly selected square metre from the field has a total of at least 30 flowers, giving your answer to three decimal places.

[3 marks]

(b) A survey of the entire field is taken.

The standard deviation of the total number of flowers per square metre is 10

State, with a reason, whether the model used in part (a) is valid.

[2 marks]
