Probability and experiments

Learn and practise | Free preview

A sample from this topic. The complete topic collection contains three different resources and worked solutions.

Read the explanation and worked example. Show your working; use a calculator only where asked.

What you will practise

• List outcomes, assign probabilities and compare expected with observed frequencies.

• Explain a method and check the reasonableness of a result.

Useful starting skills: Use the prerequisite operations and representations shown in the worked example.

A sample space lists all possible outcomes. For equally likely outcomes, probability is favourable outcomes divided by total outcomes.

Expected frequency equals probability times number of trials. Actual frequencies vary. More trials usually stabilise relative frequencies but do not guarantee exact agreement.

Worked example

A fair six-sided die is rolled 120 times. Predict the count of multiples of 3.

Favourable outcomes are 3 and 6: probability $2/6=1/3$.

Expected count $120/3=40$.

Answer: About 40, not a guaranteed count

Try it yourself

Name: _____ Date: _____

1. List the sample space of a fair coin toss.

2. Find P(odd) for a fair die numbered 1–6.

Answers and explanations

Check the method as well as the final answer. An alternative correct method is also valid.

1. {H, T}

These are the two possible outcomes.

2. 1/2

Favourable outcomes 1,3,5.

Curriculum reference: VC2M7P01; VC2M7P02

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