Complementary and compound events

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

• Represent two-event outcomes and use complements to calculate probabilities.

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

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

The complement of an event contains all outcomes not in it, so P(not A)=1-P(A). For combined events, list outcomes systematically with a table, tree or Venn diagram.

Inclusive or allows both events; exclusive or excludes their overlap. Simulations should reproduce the experiment’s stages and replacement rules.

Worked example

A fair coin is tossed twice. Find probability of at least one head.

Outcomes HH, HT, TH, TT are equally likely.

Only TT has no head; 1-1/4=3/4.

Answer: 3/4

Try it yourself

Name: _____ Date: _____

1. If P(rain)=0.35, find P(no rain).

2. List outcomes of a coin toss followed by a choice from{1,2,3}.

Answers and explanations

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

1. 0.65

Use the complement.

2. H1, H2, H3, T1, T2, T3

Pair each first-stage outcome with all second-stage outcomes.

Curriculum reference: VC2M8P01; VC2M8P02; VC2M8P03

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