

Determine all possible combinations for 2 events, using two-way tables...

determine all possible combinations for 2 events, using two-way tables, tree diagrams and Venn diagrams, and use these to determine probabilities of specific outcomes in practical situations

Learning intention

- determine all possible combinations for 2 events, using two-way tables, tree diagrams and Venn diagrams, and use these to determine probabilities of specific outcomes...

Teach and model

- describing events using language of “at least”, exclusive “or” (A or B but not both), inclusive “or” (A or B or both) and “and”
- using the relation $\Pr(A; \text{and}; B) + \Pr(A; \text{and}; \text{not}; B) + \Pr(\text{not}; A; \text{and}; B)$ to calculate probabilities, including the special case of mutually exclusive events...
- using Venn diagrams or two-way tables to demonstrate the difference between events that are mutually exclusive, such as whether a coin toss will land on a head or a tail, or...

Check understanding

- Explain the main idea in determine all possible combinations for 2 events, using two-way tables... using an example.
- Show the idea in a second way: with words, a model, a diagram or symbols.
- Apply the idea to a short unfamiliar situation and justify the result.

Teaching cautions

- Ask the student to explain their choice, not only state an answer.
- Check that key vocabulary is understood in a new example.
- Mix representations so the skill is transferred rather than copied.

Quick lesson sequence

- Connect to prior knowledge and introduce the key vocabulary.
- Model one clear example, then solve a second example together.
- Finish with an independent check and a short student explanation.