Counting choices and calculating probability

Key knowledge | Free preview

Learning target: Understand how counting methods support probability calculations.

Use the addition principle for disjoint alternatives and the multiplication principle for successive choices. A selection ignores order, so counting ordered arrangements and counting combinations are different tasks. To calculate probability from counts, verify that the elementary selections being counted are equally likely and use the same convention in numerator and denominator.

Try the mathematics

Task 1. A box contains four distinct red cards and two distinct blue cards. Two cards are chosen uniformly without replacement. Count all unordered pairs and red-red pairs, then find P(both red).

Continue with the full worksheet

The complete resource has 2 focused task sets and substantive worked solutions. Use an exercise book or print the A4 worksheet. This preview shows the first task without its full solution.

Find this resource: https://resources.aspiretopowerlearning.com.au/vce/skills/aspire-mm-u1-o1-kk-11/

Study-design reference

VCE Mathematics Study Design 2023-2027, version 1.1 (November 2022). Mathematical Methods; Unit 1; Outcome 1; Key knowledge; bullet 11; p. 47.

The learning target is a concise paraphrase. Aspire reference: aspire-mm-u1-o1-kk-11. This is an internal identifier, not an official VCAA code.

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