Discrete and continuous random variables

Key knowledge | Free preview

Learning target: Understand discrete/continuous random variables, Bernoulli trials, distribution parameters, valid probability models and their graphs.

A random variable maps an experimental outcome to a real number. Its distribution assigns probabilities to the possible values or intervals. Discrete probabilities are masses that can be positive at individual points; a continuous density gives interval probability through area, and a single point has probability zero. Compare the definition, graph and numerical summaries together.

Try the mathematics

Task 1. Toss two independent fair coins and let X count heads. Give the outcome-to-number mapping, probability table, mean and variance. Sketch the probability mass function.

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-u34-o1-kk-14/

Study-design reference

VCE Mathematics Study Design 2023-2027, version 1.1 (November 2022). Mathematical Methods; Units 3–4; Outcome 1; Key knowledge; bullet 14; p. 102.

The learning target is a concise paraphrase. Aspire reference: aspire-mm-u34-o1-kk-14. This is an internal identifier, not an official VCAA code.

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