How parameters change mass and density graphs

Key skills | Free preview

Learning target: Analyse probability mass/density functions and graph shapes in relation to defining parameters, means and variances.

A valid distribution imposes conditions on its parameters. Once those conditions are known, examine how the graph and numerical summaries change together. A larger variance generally indicates wider spread, but the particular shape still matters. For a continuous density, stretching the support changes the height needed to preserve total area one.

Try the mathematics

Task 1. Let P(X=0)=a, P(X=1)=1-2a and P(X=2)=a. Find the allowable a-values, mean and variance. Compare graph shapes for a=1/4 and a=2/5.

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-ks-16/

Study-design reference

VCE Mathematics Study Design 2023-2027, version 1.1 (November 2022). Mathematical Methods; Units 3–4; Outcome 1; Key skills; bullet 16; p. 103.

The learning target is a concise paraphrase. Aspire reference: aspire-mm-u34-o1-ks-16. This is an internal identifier, not an official VCAA code.

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