Recognise differences between formal mathematics and its representation in software

Key knowledge | Free preview

Learning target: Recognise differences between formal mathematics and its representation in software.

Use the population {0,2,4,6}, drawing uniformly and independently with replacement. Its mean is 3 and variance is 5. A simulation stores one mean per sample; a graph of $g(x)=\sqrt{(5/x)}$ provides a separate standard-error model. Record your procedure and actual outputs, using the supplied results only as checks.

Try the mathematics

Task 1. Translate $\bar{X}=(X_1+\cdots+X_n)/n$ and $g(n)=\sqrt{(5/n)}$ into unambiguous calculator/program expressions. Explain the importance of parentheses and distinguish $\bar{X}$ from one realised $\bar{x}$.

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/sm-u2-o3-kk-05/

Study-design reference

VCE Mathematics Study Design 2023-2027, version 1.1 (November 2022). Specialist Mathematics; Unit 2; Outcome 3; Key knowledge; bullet 5; p. 71.

The learning target is a concise paraphrase. Aspire reference: sm-u2-o3-kk-05. This is an internal identifier, not an official VCAA code.

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