Interpret simple matrices representing communication links.

Key knowledge | Free preview

Learning target: Interpret simple matrices representing communication links.

A communication matrix needs a direction convention. Here entry a(i,j)=1 means a direct message can travel from person i to person j. An entry of A^2 counts two-step walks, including all allowed intermediate people. It does not merely indicate whether a route exists, and a two-step walk is not necessarily a simple path.

Try the mathematics

Task 1. People A, B and C have directed links A→B, A→C, B→C and C→A. In order A,B,C, construct the adjacency matrix and its square. Interpret the first row of the square.

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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.

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Study-design reference

VCE Mathematics Study Design 2023-2027, version 1.1 (November 2022). General Mathematics; Unit 1; Outcome 1; Key knowledge; Matrices; bullet 5; p. 32.

The learning target is a concise paraphrase. Aspire reference: aspire-internal-gm-u1-o1-aos4-kk-05. This is an internal identifier, not an official VCAA code.

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