Know graph terminology, representations, families and structural properties

Key knowledge | Free preview

Learning target: Know graph terminology, representations, families and structural properties.

A graph describes connections rather than geometric distance in its drawing. Specify the vertex and edge sets before identifying graph properties. Degree counts incident edge ends. A relabelling preserves adjacency, while a complement reverses adjacency between distinct vertices of a simple graph.

Try the mathematics

Task 1. A simple undirected graph has vertices A,B,C,D and edges AB,BC,CA,CD. Draw it, give degrees and an adjacency matrix in that order, and identify connectedness, bipartiteness and whether it is a tree.

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-u1-o1-kk-07/

Study-design reference

VCE Mathematics Study Design 2023-2027, version 1.1 (November 2022). Specialist Mathematics; Unit 1; Outcome 1; Key knowledge; bullet 7; p. 61.

The learning target is a concise paraphrase. Aspire reference: sm-u1-o1-kk-07. This is an internal identifier, not an official VCAA code.

Free preview: share intact with attribution, without charging. Full resource rights are not included.

Original independent practice. Not published or endorsed by VCAA. The activity is not an official SAC, examination or complete treatment of every clause of a broad curriculum requirement.