Know volume and surface-area formulas for solids and their composites.

Key knowledge | Free preview

Learning target: Know volume and surface-area formulas for solids and their composites.

For a composite solid, volumes can usually be added when the parts do not overlap. Exposed surface area needs more care because joined faces disappear from the outside. Draw or describe the contact before choosing formulas. A pyramid’s vertical height determines its volume, while its slant face height determines the triangular side areas.

Try the mathematics

Task 1. A cylinder of radius 3 cm and height 4 cm is capped by a hemisphere of radius 3 cm. Its bottom is closed. Find the volume and exposed surface area, giving exact answers.

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-internal-gm-u2-o1-aos4-kk-06/

Study-design reference

VCE Mathematics Study Design 2023-2027, version 1.1 (November 2022). General Mathematics; Unit 2; Outcome 1; Key knowledge; Space, measurement and applications of trigonometry; bullet 6; p. 39.

The learning target is a concise paraphrase. Aspire reference: aspire-internal-gm-u2-o1-aos4-kk-06. This is an internal identifier, not an official VCAA code.

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