Connect Pythagoras and right-triangle ratios to elevations, depressions and bearings.

Key knowledge | Free preview

Learning target: Connect Pythagoras and right-triangle ratios to elevations, depressions and bearings.

Choose a right triangle from the physical setting and label the angle relative to a horizontal or north line. Elevation and depression are measured from horizontal lines; true bearings are measured clockwise from north. The relevant trigonometric ratio depends on which side lengths are known. State assumptions such as level ground and the observer’s height.

Try the mathematics

Task 1. From a point 20 m horizontally from the base of a vertical tower, the elevation angle is 35°. Ignore observer height. Find the tower height. From the tower top, what is the depression angle to the observation point?

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-02/

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 2; p. 39.

The learning target is a concise paraphrase. Aspire reference: aspire-internal-gm-u2-o1-aos4-kk-02. This is an internal identifier, not an official VCAA code.

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