Recognise mathematical content from one or more areas suited to an investigation

Key knowledge | Free preview

Learning target: Recognise mathematical content from one or more areas suited to an investigation.

Consider an illustrative river 120 m wide. Water flows east at 1.5 m/s, and a boat can move at 2.5 m/s relative to the water. North points directly across. Ignore acceleration and bank effects. A different navigation objective can change the best heading, so state the required landing condition.

Try the mathematics

Task 1. Model a boat aimed due north relative to the water. Find ground velocity, speed, crossing time and eastward drift. Define the reference frame for each velocity.

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-o2-kk-01/

Study-design reference

VCE Mathematics Study Design 2023-2027, version 1.1 (November 2022). Specialist Mathematics; Unit 2; Outcome 2; Key knowledge; bullet 1; p. 70.

The learning target is a concise paraphrase. Aspire reference: sm-u2-o2-kk-01. This is an internal identifier, not an official VCAA code.

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