Rates and travel models

Learn and practise | Free preview

A sample from this topic. The complete topic collection contains three different resources and worked solutions.

Read the explanation and worked example. Show your working; use a calculator only where asked.

What you will practise

• Compare quantities in different units and model constant-speed travel.

• Explain a method and check the reasonableness of a result.

Useful starting skills: Use the prerequisite operations and representations shown in the worked example.

A rate compares unlike units, such as kilometres per hour or dollars per kilogram. Divide one quantity by the other and keep the units visible.

Constant-speed models use distance=speed×time. Convert minutes to hours when speed is in km/h. Real travel may require stops and changing speeds.

Worked example

A cyclist travels 18 km in 45 minutes. Find average speed.

45 min=0.75 h.

18/0.75=24.

Answer: 24 km/h

Try it yourself

Name: _____ Date: _____

1. Find speed for 150 km in 2.5 h.

2. Find distance at 72 km/h for 20 min.

Answers and explanations

Check the method as well as the final answer. An alternative correct method is also valid.

1. 60 km/h

Distance/time.

2. 24 km

Time=1/3 h.

Curriculum reference: VC2M8M05; VC2M8M07

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