Linear and quadratic modelling

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

• Choose and evaluate linear or quadratic models, including simple interest.

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

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

Linear models have a constant change per input step; quadratic models can represent area or a single rise-and-fall pattern. Define variables, units and a sensible domain.

Simple interest uses I=Prt with r as a decimal rate per year and t in years. Evaluate whether assumptions such as fixed rate and no compounding fit the problem.

Worked example

Model simple interest on$800 at 4% per year for 3 years.

I=800×0.04×3=96.

Final amount=800+96.

Answer: Interest$96; total$896

Try it yourself

Name: _____ Date: _____

1. Find simple interest on$1500 at 6% for 2 years.

2. A rectangle width x has length x+4. Write area model.

Answers and explanations

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

1. $180

Prt.

2. $A=x^2+4x$

Multiply width by length.

Curriculum reference: VC2M9A06

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