Bivariate data and investigations

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

• Investigate relationships between numerical variables and time series.

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

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

Bivariate data pair two measurements for each observation. Scatterplots show direction, strength and form; a line of good fit summarises an approximately linear association.

For time series, preserve the order of time. Predictions within observed ranges are interpolation; outside them they are extrapolation and often less reliable. Association alone does not prove causation.

Worked example

Points (1,4), (2,6), (3,8), (4,10) suggest what line?

Output rises 2 per unit input.

At x=0 the rule would give 2.

Answer: y=2x+2

Try it yourself

Name: _____ Date: _____

1. Describe association in (1,9), (2,7), (3,5), (4,3).

2. For line y=3x+1, predict y at x=5.

Answers and explanations

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

1. Strong negative linear association

Points lie on a decreasing line.

2. 16

Substitute 5.

Curriculum reference: VC2M10ST02; VC2M10ST05

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