Mathematical modelling to solve applied problems involving linear relations, including...

use mathematical modelling to solve applied problems involving linear relations, including financial contexts; formulate problems with linear functions, choosing a representation; interpret and communicate solutions in terms of the situation, reviewing the appropriateness of the model

Learning intention

- use mathematical modelling to solve applied problems involving linear relations, including financial contexts; formulate problems with linear functions, choosing a representation...

Teach and model

- modelling situations involving linear functions, including practical contexts such as taxi fares involving flag fall fees, motion in a straight line at a constant speed, trade...
- modelling problems in practical situations and interpreting solutions within the context of the problem, including giving attention to all units of measure and whether results are...
- modelling financial problems involving pay rates, using a table of values to represent the pay amounts and hours worked using an hourly rate of pay, and graphing the...

Check understanding

- Explain the main idea in mathematical modelling to solve applied problems involving linear relations, including... using an example.
- Show the idea in a second way: with words, a model, a diagram or symbols.
- Apply the idea to a short unfamiliar situation and justify the result.

Teaching cautions

- Ask the student to explain their choice, not only state an answer.
- Check that key vocabulary is understood in a new example.
- Mix representations so the skill is transferred rather than copied.

Quick lesson sequence

- Connect to prior knowledge and introduce the key vocabulary.
- Model one clear example, then solve a second example together.
- Finish with an independent check and a short student explanation.