

Solving (Simple) Problems Based on Quadratic Equations

Chapter 6: Solving (Simple) Problems Based on Quadratic Equations · Topic 1

Key Concept

To solve a word problem, we first translate the situation into a quadratic equation using a variable to represent the unknown value.

For example, a problem about a rectangle's area might lead to an equation like $x(x+3)=40$, which we solve for x .

After solving, we check which solutions make sense in the context (like rejecting negative lengths for a physical dimension).

Practising these word problems builds skills in translating real situations into mathematical models and interpreting results meaningfully.

Quick Revision Notes

- Word problems translate into quadratic equations.
- A variable represents the unknown value.
- Example: rectangle area problem gives $x(x+3)=40$.
- We solve the resulting equation.
- We check which solutions make contextual sense.
- Negative lengths are usually rejected.
- Practice builds translation and interpretation skills.
- This connects algebra to real situations.

Practice Questions

- 1 Solve: A rectangle's length is 3 more than its width, and area is 40. Find the dimensions.
- 2 Solve: The product of two consecutive numbers is 56. Find the numbers.
- 3 Discuss why we check solutions for context.
- 4 Create your own quadratic word problem.
- 5 Solve a speed-related quadratic word problem.
- 6 Explain how to translate a word problem into an equation.