

## **Adult Numeracy Teaching**

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National Staff Development Committee for Vocational Education and Training, 1995

ISBN: 0 642 23302 0

Aust . Dollar \$88.00

<http://www.caepress.edu.au>

This very popular training package is an 84 hour professional development program designed to train and support teachers of adult numeracy and mathematics in adult literacy and basic education. It is a competency-based program designed to provide ALBE teachers with a broad understanding of the content and structure of mathematics and how it is applied to modern life, and to develop teachers' confidence in their own use of mathematics and in theories, methodologies and communications processes appropriate for teaching numeracy in ALBE. The primary purpose is to blend theory and practice about teaching and learning adult numeracy within a context of doing and investigating some mathematics, whilst developing a critical appreciation of the place of mathematics in society. Comprehensive trainer's notes, handouts and activity sheets included.

### **Examples of Material Attached**

- **Area Discussion**
- **Introduction to Algebra 1 & 2**

## Looking at boundaries

HO3

page 1

- 1 The central question we are looking at is:

*If you have a fixed length of fencing with which to fence around a garden, will the garden have the same total amount of area for planting no matter what shape you make it?*

Without going into mathematical justifications what do you think the answer is? Now go straight to question 2. We will return to this one later.

- 2 Let's look here at some related questions.

Let's suppose everyone in the class has some fencing, not necessarily the same length, and is going to use it make a fenced-in garden.

The following discussion takes place. First decide quickly by yourself whether you agree or disagree with the statements. Then try to come to a consensus within your group. Be sure that everyone in the group is convinced by the group decisions.

Lee: *If I use more fencing than you then my garden will be bigger than yours.*

Soheila: *If I know what the area of my garden is, then I can work out how much fencing I'll need.*

Chris: *If you make a rectangular garden, I can always make another one with the same length of fencing but with a larger area.*

- 3 So, let's go back to the original question.

What do you think now? Why?

Can you convince others? (What does convincing involve? Is it the same as proving?)

Does your answer make *sense* to you? (What sort of sense? mathematical? real-world?)

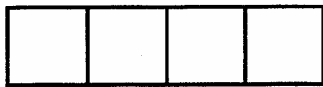
# Squaring with matches

HO8

Can you work out how many matches you need to make each of the following shapes?

Shape:

Number of matches:



Without drawing it, can you predict the number of matches for *ten* squares?

What about for one hundred squares?

Can you find a rule (in your own words) which generalises how many matches you need?

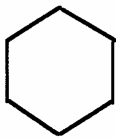
Can you write the rule in symbols?

# Writing your own rules

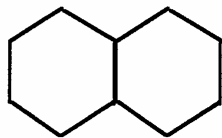
❖ AS10

## WRITING YOUR OWN RULES—1

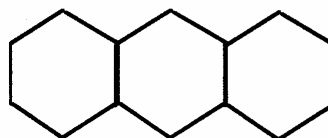
Can you find a rule (in your own words) which generalises how many matches you need for the 4th shape, 5th, ... 10th, ... 100th shape?



1st



2nd



3rd

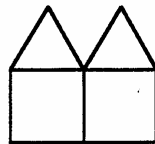
Can you translate the rule into symbols?

## WRITING YOUR OWN RULES—2

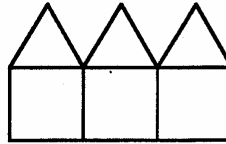
Can you find a rule (in your own words) which generalises how many matches you need for the 4th shape, 5th, ... 10th, ... 100th shape?



1st



2nd



3rd

Can you translate the rule into symbols?