# Problems which lead to Quadratic Equations

### Aims:

To form quadratic equations in situations where the variable is given

### Activities:

Example (printed on worksheet)

The diagram shows how a fence has been used to enclose a rectangular sheep pen next to a wall. The length of fence used is 15 m.

*x*

* 1. Write an expression for the length of the longer side of the pen, given that each of the shorter sides has length *x*.
  2. Given that the pen has area 27m2, write an equation for *x* and solve it.

Reminder of thought process to solve quadratics – try to factorise first, then complete the square or use the formula.

Pratice – Section A

### Aims:

To form quadratic equations by defining your own variable

### Activities:

Example on worksheet

Example

The height of a triangle is 3 cm more than the width. The triangle’s area is 5 cm2.

* 1. Form an equation to represent this situation.
  2. Find the height of the triangle.

Worksheet – Section B

Extension: Section C on back