

MATHEMATICS TEST
Year 9 – Part B2
Spring 2004

The contents of this test material must remain *secret* until June 11, 2004.

This part consists of questions you may work with for about 50 minutes.

It is very important that you explain clearly and completely how you solve the questions.

This part of the test can give a maximum of 5 g-points and 6 vg-points. The symbol α indicates that you have the opportunity to demonstrate MVG-quality in your solutions.

Aids: calculator, ruler.

Name: _____

School: _____ Class: _____

Birth date: Year _____ Month _____ Day _____

Girl ☐ Boy ☐

All solutions and answers must be written on this question paper.

Geometrical figures on dotted graph paper

These questions deal with geometrical figures drawn on dotted graph paper.

You are to write your solutions as clearly as possible in this material on pages 3–5 by drawing, calculating and explaining.

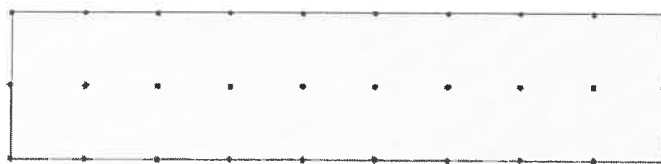
On pages 6–7 there are some dotted pages you may use for rough work.

(5/6) α

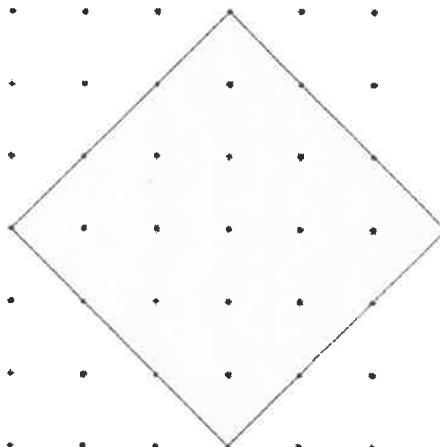
When assessing your solutions the teacher will take into consideration

- what mathematical knowledge you have demonstrated
- how well you have drawn figures and expressed your line of thought
- how well you have explained and defended your conclusions.

- The area of *the rectangle* is 18 cm^2 and the perimeter is 22 cm.
- Draw another *rectangle* with the same area (18 cm^2) but with a shorter perimeter. Each of the four vertices of the rectangle must be located at a dot.
- Find the perimeter of your rectangle. Show your calculations here:

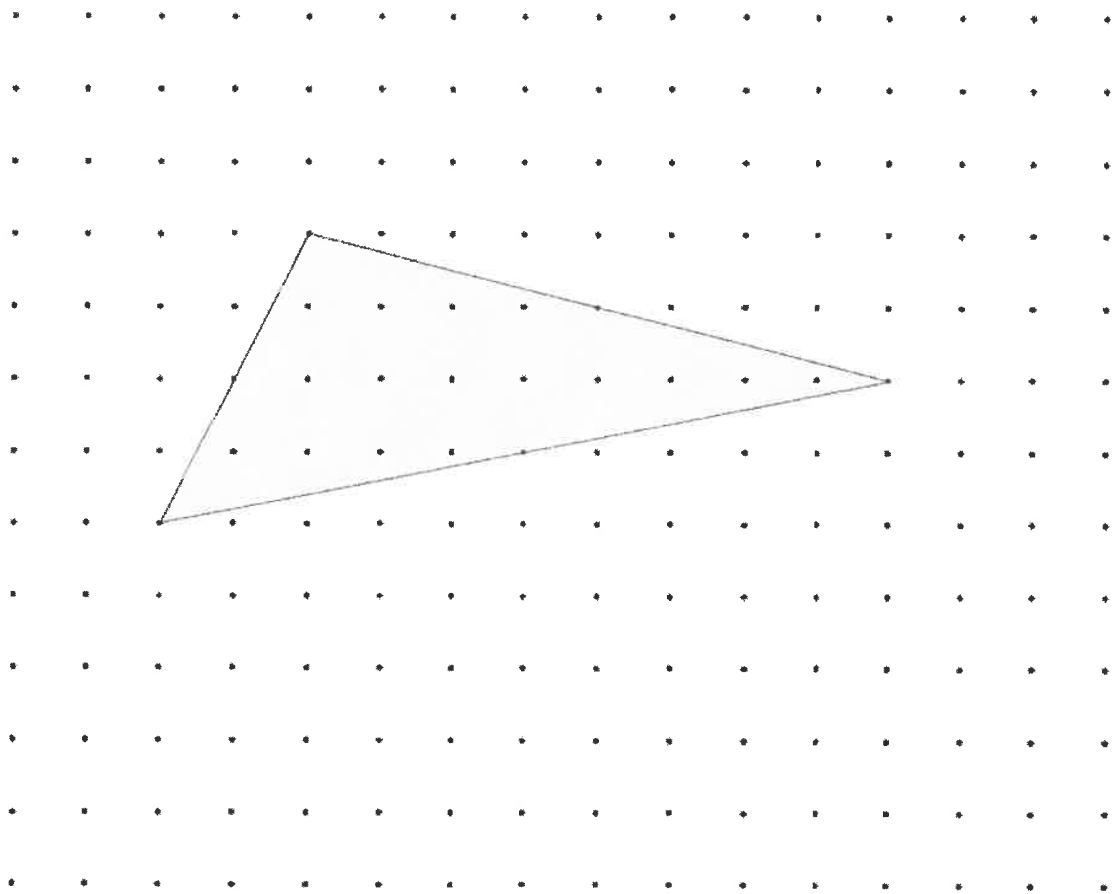


- *The square* in the figure also has the same area (18 cm^2). Show that this is true. Present your solution by drawing in the figure and writing here:

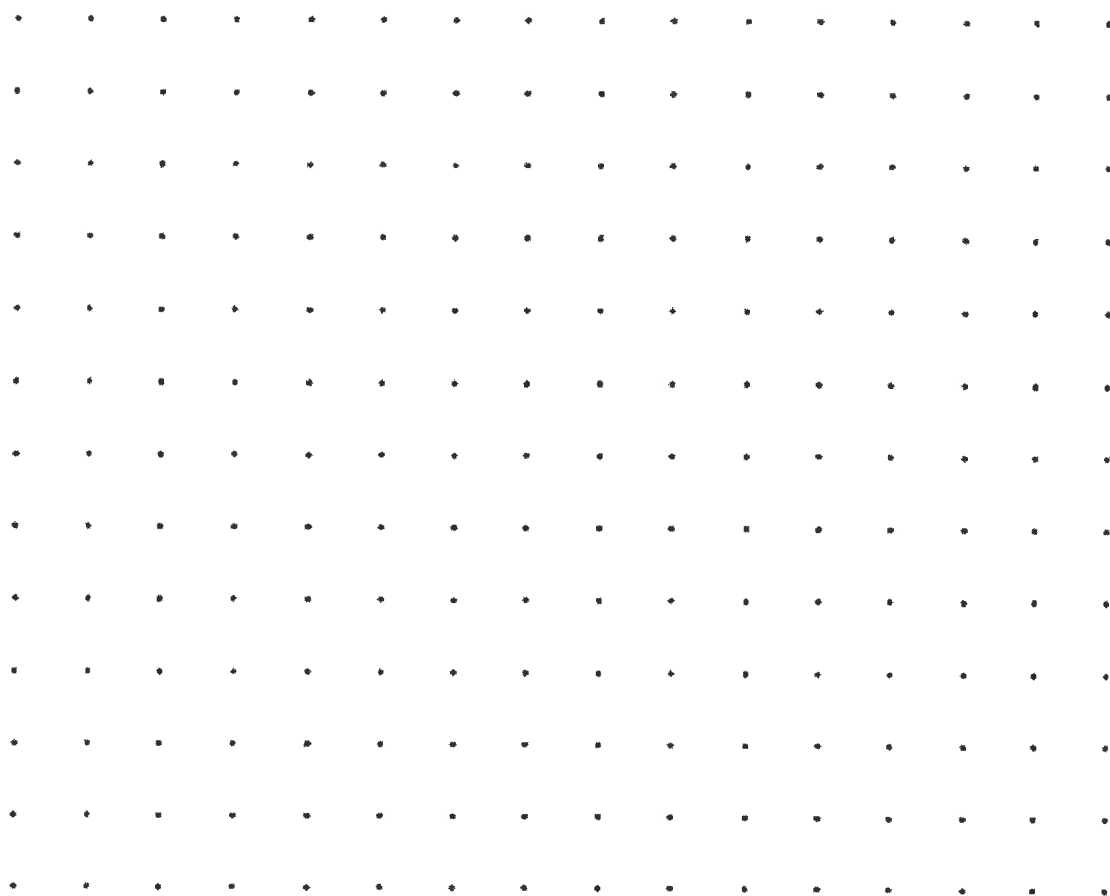


- Find the perimeter of the square. Present your reasoning and calculations here:

- Find the area of *the triangle*. Try to do this without measuring with a ruler.
Explain what you did by drawing in the figure and writing here:



- Draw a *square* that has the area 10 cm^2 on the dotted paper below.
Each of the four vertices of the square must be located at a dot.
Show how you know that your square has an area of 10 cm^2 .
Present your solution by drawing in the figure and writing here:



Rough paper



Rough paper





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