The contents of this test paper must remain *confidential* until June 9, 2006.

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

It is very important that you carefully explain the reasoning in your solution.

In the box below the question you can see what considerations the teacher will apply in assessing your work. At the most the question can yield 4 g-points and 6 vg-points. The symbol ¤ indicates that you may demonstrate MVG-quality in your solution.

Aids: Calculator and formula sheet

Name: _____

School:_____ Class: _____

Birth date: Year _____ Month_____ Day_____

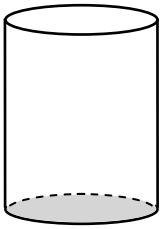
Female ❑ Male ❑

Solutions and answers must be written on separate paper, not on this question paper. The question paper must be handed in, together with your solution.

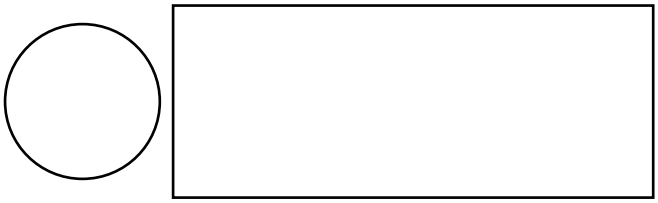
Cylinders

(4/6) ¤

Here you see a figure representing a cylinder. This cylinder has a bottom but no lid.



Here you see a drawing of the two parts of the cylinder. The drawing is used when making a cylinder out of sheet metal.



I. A cylinder has the height 12.8 cm and the base radius is 5.0 cm. Find the volume for the cylinder.

II. You are to cut out this cylinder's two parts from a rectangular piece of sheet metal. What dimensions should this piece of sheet metal have? Explain your reasoning.

III. You have a piece of sheet metal that is 6 cm wide and 24 cm long. From this piece you are to make a decilitre-measuring can in the shape of a cylinder. The can should have the volume 1 dl. Investigate whether this is possible. Explain your line of thought, reasoning and conclusions in a clear solution.

$1\ dm^3 = 1$ litre

$1\ cm^3 = 1$ millilitre

Cylindrical decilitre can

In assessing your work, the teacher will consider
- what mathematical knowledge you have shown
- how well you have drawn figures and presented your solutions
- how well you have explained your reasoning and conclusions.