Mathematics

Spring 2010

Part B2

Name

Skolverket

Part B2

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 5 g-points and 5 vg-points. The symbol ¤ indicates that you may demonstrate MVG-qualities in your solution.

Aids: Access to 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.

Illustrations: Jens Ahlbom

Wedding Cake

Peter and Jasmine are going to make a wedding cake for their cousin who is going to be married.

a)   Peter and Jasmine want to find out how big a piece of cake is for one helping. Therefore they buy such a piece of the same kind of cake as they intend to bake. The piece of cake is in the shape of a rectangular block with length 10 cm and width 5 cm. Find the area of the bottom (base area) of the piece of cake.

b)   There will be 60 guests at the wedding reception and the guests are to have one piece of cake each. "Help", shouts Peter, "then our cake will have to have a bottom area (base area) of 30 dm²". Can this be right? Explain your reasoning and answer using calculations.

c)   Jasmine thinks that they should bake a round cake with three layers.

The bottom layer of the cake should have twice the area of that of the middle layer. And the middle layer in turn should have twice the area of that of the top layer. The three-layer cake must be enough for all the 60 wedding guests, so that they get one piece each. What will the diameters of each of the round layers have to be? Explain your answer using reasoning and calculations.
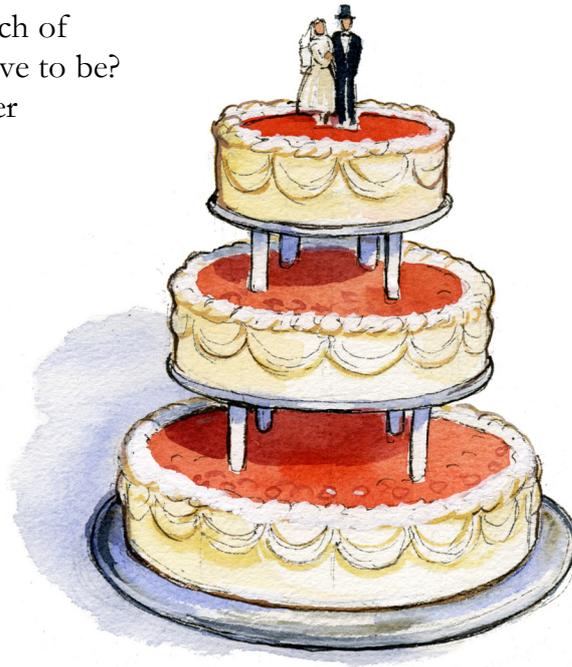
In assessing your work the teacher will take into consideration
- what mathematical knowledge you have shown and how well you have carried out the task
- how well you have explained your work and defended your conclusions
- how well you have presented your written solution.

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