

Mathematics

A

Spring 2012

This test will be re-used and is therefore protected by **Chapter 17 paragraph 4 of the Official Secrets Act**. The intention is for this test to be re-used until **2018-06-30**. This should be considered when determining the applicability of the Official Secrets Act.

Part I

Time: 90 minutes

Name

Instructions – Part I

- Time** 90 minutes for Part I. It is recommended that you use a maximum of 45 minutes for working with the part where calculator is not allowed. You may not use your calculator until you have submitted your answers to this part.
- Aids** **Part where calculator is not allowed:** Approved formula page and ruler.
Question 15: Calculator, approved formula page and ruler.
- The part without calculator** This part consists of questions to be solved without a calculator. Two of the questions require that you explain your solution. Present your solutions in the figure and the box nearby the question. The rest of the questions require only the answer. After each question the maximum number of points available for your answer/solution is shown.
- Question 15** This question is a larger question, which normally requires more time. In the box below the question you can see what considerations the teacher will make in assessing your solution.
- Grading** The test (part I + part II) gives a total maximum of 60 points, of which 26 are vg-points.
Lower limits for examination grade
Pass: 18 points.
Pass with distinction: 35 points of which at least 9 vg-points.
Pass with special distinction: At least 18 vg-points. In addition you must demonstrate several of the MVG-qualities that are possible to show in the questions marked α .

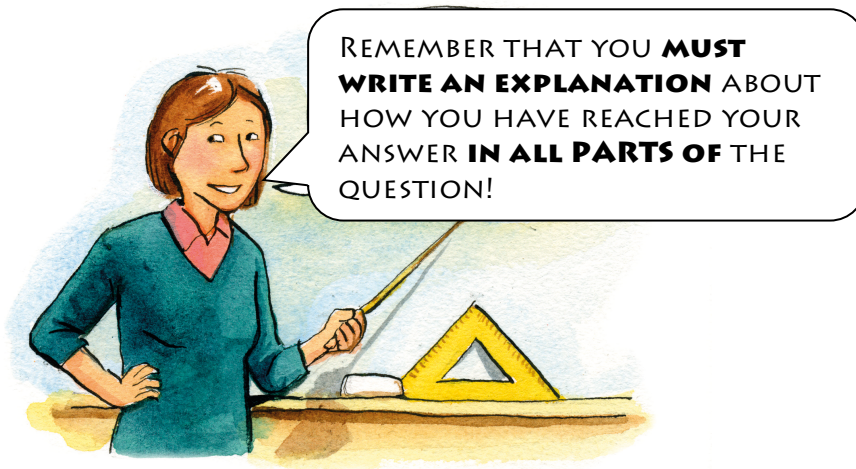
Illustration: Jens Ahlbom

Name: _____

Date of birth: _____

Adult education/Secondary school program: _____

Question 15 – Mean and median for four numbers



- I** You have four given numbers. They are 1, 9, 2 and 4.
- The mean for these four numbers is 4. Show that this is correct.
 - The median for the four numbers is 3. Show that this is correct too.
- II** The mean for four numbers is 9. Three of the numbers are 4, 11 and 16.
- What is the fourth number?
- III** The median for four numbers is 10. Three of the numbers are 8, 3 and 12.
- What values might the fourth number have?
- IV** The mean for four numbers is 6. Two of the numbers are 4 and 7.
We represent the other two numbers as a and b .
- Give three different suggestions for the numbers a and b .
 - Describe the relationship between the numbers a and b using words or a formula.
- V** The median for four numbers is 7. Two of the numbers are 5 and 10.
We represent the other two numbers as c and d , where d is greater than or equal to c . Investigate what the numbers might be.
- Give three different suggestions for the numbers c and d .
 - Explain what the greatest possible value for d can be.

(5/5) ✖

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 solution.

