

*Skolverket*

(National Agency for Education)

National Test in  
**MATHEMATICS**

Course A

---

Spring 2005

Part I

**PRIM**  
gruppen

Stockholm Institute of Education

© Skolverket 2005

The National Agency for Education, referring to 4 kap 3 § Sekretesslagen, emphasises that this material is to be kept confidential. **This material must remain confidential until June 10, 2005.**

**National Test in  
MATHEMATICS  
COURSE A  
Spring 2005**

**Part I**

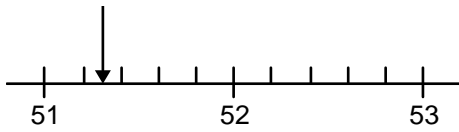
**Instructions**

- Time** 180 minutes altogether for Part I and Part II. It is recommended that you use a maximum of 30 minutes for Part I. You may not use your calculator until you have submitted your answers to Part I.
- Tools** Approved formula pages and ruler.
- Part I** Part I consists of questions to be solved without a calculator and requiring only brief answers. A correct answer gives 1 g-point (1/0) or 1 vg-point (0/1).
- Grade Limits** The test (Part I and Part II) gives a maximum of 60 points, of which 27 are vg-points.
- Lower limit for examination grade*
- Pass (G): 19 points
- Pass with Distinction (VG): 35 points of which at least 11 vg-points
- Pass with Special Distinction (MVG): Over and above the requirements for Pass with Distinction you must show several *Pass with Special Distinction qualities in at least two* of the  $\alpha$ -marked questions. In addition you must have at least 20 vg-points (Pass with Distinction points).

Name: \_\_\_\_\_ School: \_\_\_\_\_

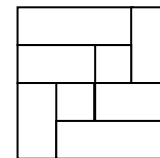
Adult education/secondary school program: \_\_\_\_\_

1. What number is the arrow pointing at?



Answer: \_\_\_\_\_ (1/0)

2. Shade  $\frac{3}{8}$  of the figure.



(1/0)

3. What is 20 % of 50 kr?

Answer: \_\_\_\_\_ kr (1/0)

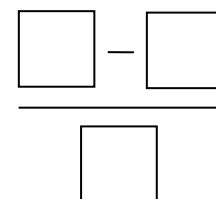
4. Estimate about how much water an ordinary drinking glass holds. Circle your answer.

200 ml      200 cl      200 dl      200 hl      200 kl      (1/0)

5. Solve the equation  $7(x - 3) = 49$

Answer: \_\_\_\_\_  $x =$  \_\_\_\_\_ (1/0)

6. Place the numbers **25** and **102** and **0.1** in the spaces so that the result will be as great as possible.

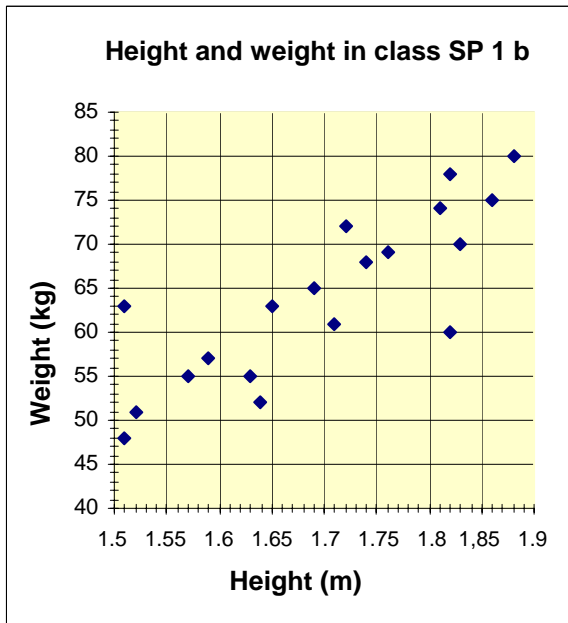


(1/0)

7. From 6 kg of apples Astrid gets 2.8 l of apple juice. How many litres of juice can she get from 15 kg of apples of the same kind?

Answer: \_\_\_\_\_ litre (1/0)

8.



a) Anna is a student in class SP 1 b and weighs 65 kg.  
How tall is she?

Answer: \_\_\_\_\_ m (1/0)

b) Find the median height for the class?

Answer: \_\_\_\_\_ m (0/1)

9. What is the relation between  $a$  and  $b$ ?

$a$	10	15	25	50
$b$	2	3	5	10

Answer: \_\_\_\_\_ (0/1)

10. What must  $x$  be in order for the following equation to be true?

$$10 = \frac{10^3}{10^x}$$

Answer:  $x =$  \_\_\_\_\_ (0/1)

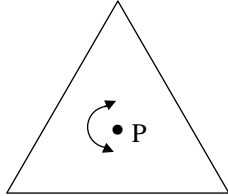
11. The Persson family paid 18 000 kr one year for the interest on their loan. The interest rate was 6 %. How big is their loan?

Answer: \_\_\_\_\_ kr (0/1)

12. Write as an equality:  
 $x$  is 200 more than  $y$ .

Answer: \_\_\_\_\_ = \_\_\_\_\_ (0/1)

- 13.



How many degrees must the equilateral triangle be rotated about point P so that the triangle will coincide with the original one? Give the least possible angle.

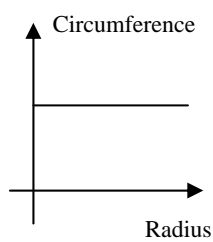
Answer: \_\_\_\_\_ degrees (0/1)

14. Which of the following numbers is a solution to the equation  $x^2 + x - 12 = 0$ ? Circle your answer.

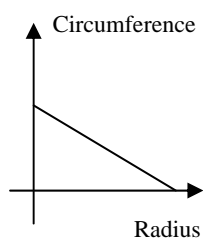
(0/1)

-4                  -2                  0                  2                  4

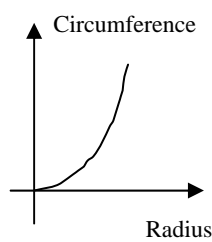
15. Which of the following graphs shows the relation between the circumference of the circle and its radius?



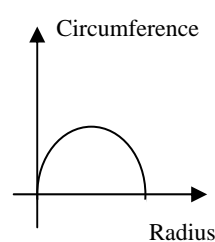
Graph A



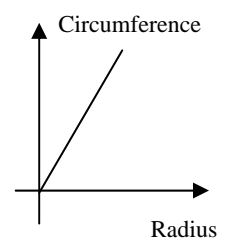
Graph B



Graph C



Graph D



Graph E

Answer: \_\_\_\_\_ (0/1)