

Mathematics

Delprov B

1a

Elevens namn och klass/grupp

Instructions – Part B

Time for the test 60 minutes for Part B.

Aids Allowed aids on Part B are formula sheet and ruler.

Tasks This part consists of tasks to be solved without using digital devices. Answers and solutions are to be written in the test booklet. Some of the tasks require working, which is to be shown in the figure and the box next to the task. For the other tasks only the answer is required. The maximum number of points that you can get for your answer/solution is shown after each task.

Grading limits The test (Part A–D) gives a total maximum of 87 points.

Limit for test grade

- E: At least 20 points.
- D: At least 34 points of which at least 11 points at level C or higher.
- C: At least 46 points of which at least 20 points at level C or higher.
- B: At least 60 points of which at least 6 points at level A.
- A: At least 70 points of which at least 11 points at level A.

Name: _____

Date of birth: _____

Program: _____ Class: _____

Illustration: Jens Ahlbom

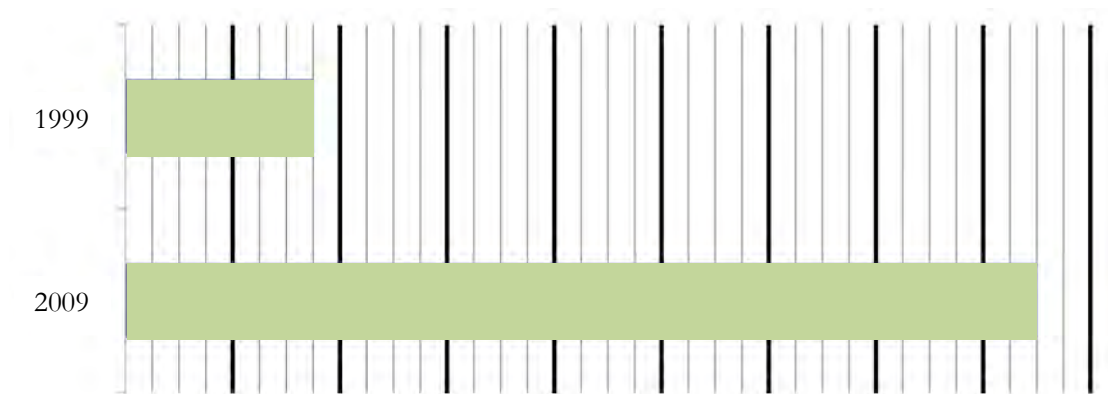
1. How many minutes is 1.25 hours?

Answer: _____ min (1/0/0)

2. Which of the following numbers is the best approximate value of $0.53 \cdot 148$? Circle your answer.

50 80 100 300 750 (1/0/0)

3. The diagram below shows the number of internet users in the world in 1999 and 2009. In 1999, there were about 350 million internet users. Approximately how many users were there in 2009? Show your solution.



Answer: _____ (2/0/0)

4.



Daniel has only two eggs. How much *milk* will be needed according to the recipe if he's going to make pancakes with two eggs?

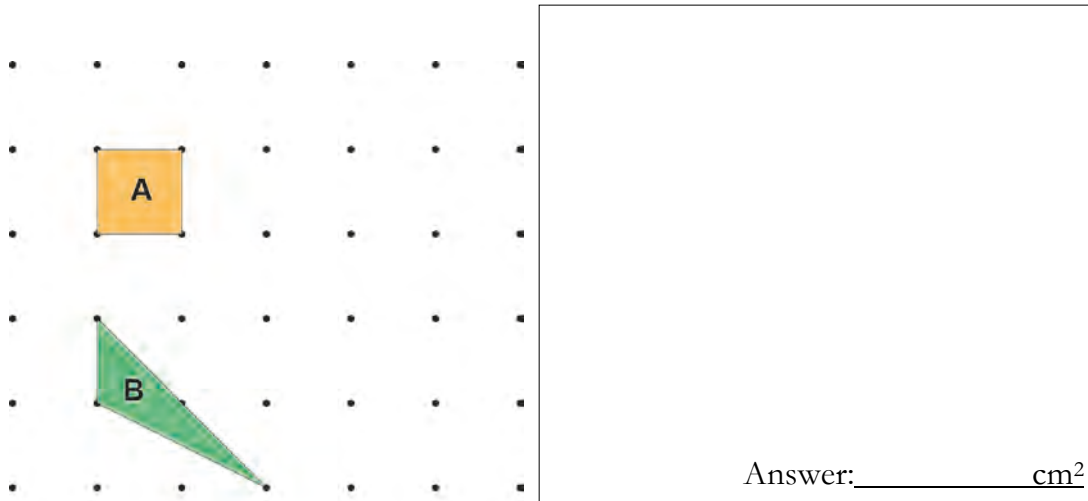
Answer: _____ dl (1/0/0)

5. A bank loan of SEK 60,000 is to be paid off by the same amount each month (straight-line amortization) over 10 years.
How much should be paid off each month?

Answer: SEK _____ (1/0/0)

6. Uppgift under sekretess. Kommer att läggas till så snart sekretesstiden har gått ut.

7. The area of Figure A is 1 cm^2 . Determine the area of Figure B.
Show your solution.



(1/1/0)

8. What number is exactly halfway between $\frac{1}{4}$ and $\frac{1}{2}$? Answer: _____

(0/1/0)

9. A tablet was sold at a 20 % discount. Which of the following expressions is/are equivalent to the discounted price if the original price was SEK x ?
Circle your answer(s).

$$\frac{x}{0.8}$$

$$0.8x$$

$$\frac{x}{1.2}$$

$$1.2x$$

$$x - 20$$

(0/1/0)

10. Uppgift under sekretess. Kommer att läggas till så snart sekretesstiden har gått ut.

11. Oskar, Krister and Fredrik have all solved the same equation.
Only one solution is correct.

Oskar	Krister	Fredrik
$3x - 2(5 - x) = 2x + 5$ $3x - 10 + x = 2x + 5$ $2x = 15$ $x = 7,5$	$3x - 2(5 - x) = 2x + 5$ $3x - 10 + 2x = 2x + 5$ $3x = 15$ $x = 5$	$3x - 2(5 - x) = 2x + 5$ $3x - 10 - 2x = 2x + 5$ $3x = 15$ $x = 5$

a) Who has solved the equation correctly?

Answer: _____

(1/0/0)

b) What are the errors in the other two solutions?

(1/1/1)

12. Infusions (or intravenous drips) are used to deliver fluids and drugs to patients. Nurses must be able to calculate the drip rate, D , in drops per minute.

They use the formula $D = \frac{d \cdot v}{60 \cdot n}$ where

d is the drop factor measured in drops per millilitre,
 v is the infusion volume in millilitres and
 n is the number of hours that the drip must be in place.



- a) A nurse wants to double the amount of time the drip is in place. Describe exactly how D changes if n is doubled but d and v do not change.
 Write your answer in the box.

Answer:

(0/2/0)

- b) Nurses must also be able to calculate the infusion volume, v , from the drip rate, D .

An infusion with a drip rate of 50 drops per minute must be given to a patient for 3 hours. For this infusion, the drop factor is 25 drops per millilitre.

What is the infusion volume in millilitres (ml)?

Answer: _____ ml

(0/0/1)

13. Sara knows the price of a litre of milk in the year 1985. She is now going to calculate the price in the year 2011 with the help of an index table. What information does she need from the index table in order to solve the problem?

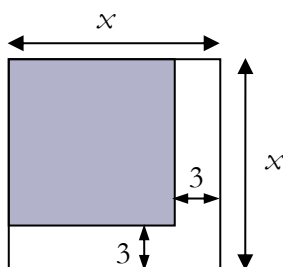
1. The base year is 1980.
2. The index figures for 1985 and 2011.

She has sufficient information to solve the problem...
Mark your answer with a cross.

- ☐ in (1) but not in (2)
- ☐ in (2) but not in (1)
- ☐ in (1) and (2) combined
- ☐ in (1) and in (2) separately
- ☐ in neither (1) nor (2)

(0/0/1)

14. Write an expression for the shaded area.



Answer: _____

(0/0/1)

Resultatredovisning – Sammanfattning Elev

Nationellt kursprov i matematik, kurs 1a vt 2014

Namn:	Provbetyg:
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	E-poäng		C-poäng		A-poäng		Totalt	
	Din poäng	Max-poäng	Din poäng	Max-poäng	Din poäng	Max-poäng	Din poäng	Max-poäng
Delprov A		4		5		5		14
Delprov B		10		7		4		21
Delprov C		3		4		3		10
Delprov D		16		19		7		42
Totalt		33		35		19		87

Delprov A	E	C	A	Poäng	Motivering
Metod och genomförande	+E _P +E _{PL}	+C _B +C _{PL}	+A _P +A _{PL}		
Resonemang	+E _R +E _R	+C _R +C _R	+A _R +A _R		
Kommunikation		+C _K	+A _K		
Summa	4	5	5		

Delprov C	E	C	A	Poäng	Motivering
Metod och genomförande	+E _{PL} +E _P	+C _P +C _{PL}	+A _{PL}		
Resonemang	+E _R	+C _R	+A _R		
Kommunikation		+C _K	+A _K		
Summa	3	4	3		

Kravgränser

Gräns för provbetyget

E: Minst 20 poäng.

D: Minst 34 poäng varav minst 11 poäng på lägst nivå C.

C: Minst 46 poäng varav minst 20 poäng på lägst nivå C.

B: Minst 60 poäng varav minst 6 poäng på nivå A.

A: Minst 70 poäng varav minst 11 poäng på nivå A.

Kommentarer:

Blanketten finns att hämta på www.su.se/primgruppen