Kursprov, höstterminen 2015

Mathematics

Delprov B

1a

Elevens namn och klass/grupp

Skolverket

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 78 points.

Limit for test grade

E: At least 20 points.
D: At least 35 points of which at least 11 points at level C or higher.
C: At least 44 points of which at least 17 points at level C or higher.
B: At least 55 points of which at least 6 points at level A.
A: At least 64 points of which at least 10 points at level A.

Name: _____

Date of birth: _____

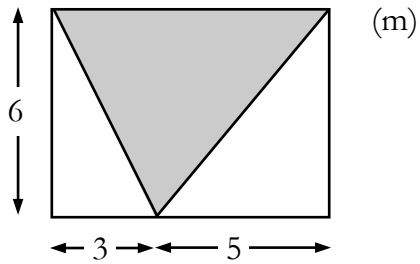
Programme: _____ Class: _____

Illustrations: Jens Ahlbom

1. Solve the equation $2(3x - 18) = 0$

Answer: $x =$ _____ (1/0/0)

2. Calculate the area of the shaded triangle.



(m)

Answer: _____ m^2 (1/0/0)

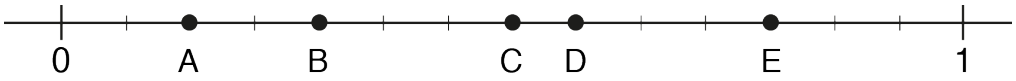
3. Calculate $\dfrac{0.14}{0.2}$

Answer: _____ (1/0/0)

4. A bag of meringues weighing 150 g costs SEK 21.
What is the price per kilogram?

Answer: SEK _____ (1/0/0)

5. Which of the points A, B, C, D and E on the number line shows the number $\frac{4}{7}$?



Answer: _____ (1/0/0)

6. If $\frac{x}{33} = \frac{35}{77}$ what is the value of x?

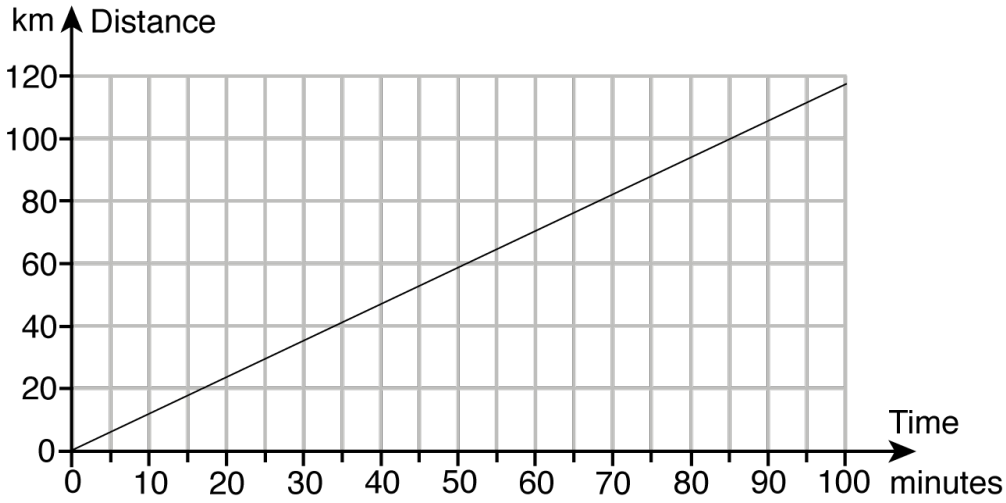
Show your solution.

Answer: $x =$ _____ (1/1/0)

7. Lisa ran 60 m. The time was measured and stated as 10.5 seconds.
What time(s) might she have completed the run in?
Circle your answer/s.

10.54 10.59 10.48 10.46 10.56 (1/1/0)

8. The diagram shows how far a person travels within a given time at a speed of 70 km/h.



a) Draw the corresponding graph in the diagram for the speed of 90 km/h. (1/0/0)

b) When Johan drives to work, he has an average speed of 90 km/h. It takes approximately 40 minutes. Determine, using the diagram, how much longer it would take to drive the same route if his average speed was instead 70 km/h. Show your solution.

Answer: _____ min (1/1/0)

9. What growth factor corresponds to a price increase of 150 %?

Answer: _____ (0/1/0)

10. All of the jackets in a shop are sold at a 40 % discount.
You pay SEK 1 200 for a jacket.
How much did it cost before the discount? Answer: SEK _____ (0/2/0)

11. Astrid, Bella, Cissi and Denise like playing football but are unable to train with the same frequency. Astrid trains every other day. Bella trains once every three days. Cissi trains once every four days. Denise trains once every six days.

Assume that all four train together on December 3. What is the next date on which they train together?
Show your solution.

Answer: _____ (1/1/0)

12. Which number(s) is/are less than 0.2 per mille?
Circle your answer(s).

1.9×10^{-4} 2.1×10^{-4}

2.1×10^{-5} 1.9×10^{-3} 2.1×10^{-3} (0/0/1)

13. A team is due to play 130 matches in a season.
After playing 80 matches, they have won 48 of them.
How many of the 50 remaining matches must the team win
in order for the proportion of wins to be the same
as after the first 80 matches?

Answer: _____ (0/0/1)

14. For the five positive numbers a, b, c, d and e it is given that

$ab = 1$, $bc = 2$, $cd = 3$, $de = 5$.

a) What is the value of $\frac{a}{c}$? Answer: $\frac{a}{c} =$ _____ (0/1/0)

b) What is the value of $\frac{a}{e}$? Show your solution.

Answer: $\frac{a}{e} =$ _____ (0/0/2)

Test result – Student summary

National test in mathematics, 1a autumn 2015

Name:	Test grade:

	E-points		C-points		A-points		Total	
	Your score	Maximum score	Your score	Maximum score	Your score	Maximum score	Your score	Maximum score
Part A		4		4		4		12
Part B		10		8		4		22
Part C		2		3		4		9
Part D		17		13		5		35
Total		**33**		**28**		**17**		**78**

Part A	**E**	**C**	**A**	**Score**	**Comment**
Method and carrying through	$+E_B$ $+E_B$	$+C_M$	$+A_M$		
Reasoning	$+E_R$	$+C_R$	$+A_R$		
	$+E_R$	$+C_R$	$+A_R$		
Communication		$+C_K$	$+A_K$		
Total	**4**	**4**	**4**		

Part C	**E**	**C**	**A**	**Score**	**Comment**
Method and carrying through	$+E_{PL}$ $+E_P$	$+C_P$	$+A_{PL}$ $+A_{PL}$		
Reasoning		$+C_R$	$+A_R$		
Communication		$+C_K$	$+A_K$		
Total	**2**	**3**	**4**		

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Test grade

The test grade sums up the knowledge that the student has shown on the national test. The course grade does not have to be the same as the test grade since the course grade is based on all the knowledge that the student has shown during the course.

Comments:

The form is available to download at www.su.se/primgruppen

PRIM gruppen