

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 76 points.

Limit for test grade

E: At least 18 points.

D: At least 30 points of which at least 8 points at level C or higher.

C: At least 40 points of which at least 15 points at level C or higher.

B: At least 51 points of which at least 5 points at level A.

A: At least 60 points of which at least 9 points at level A.

Name: _____

Date of birth: _____

Programme: _____ Class: _____

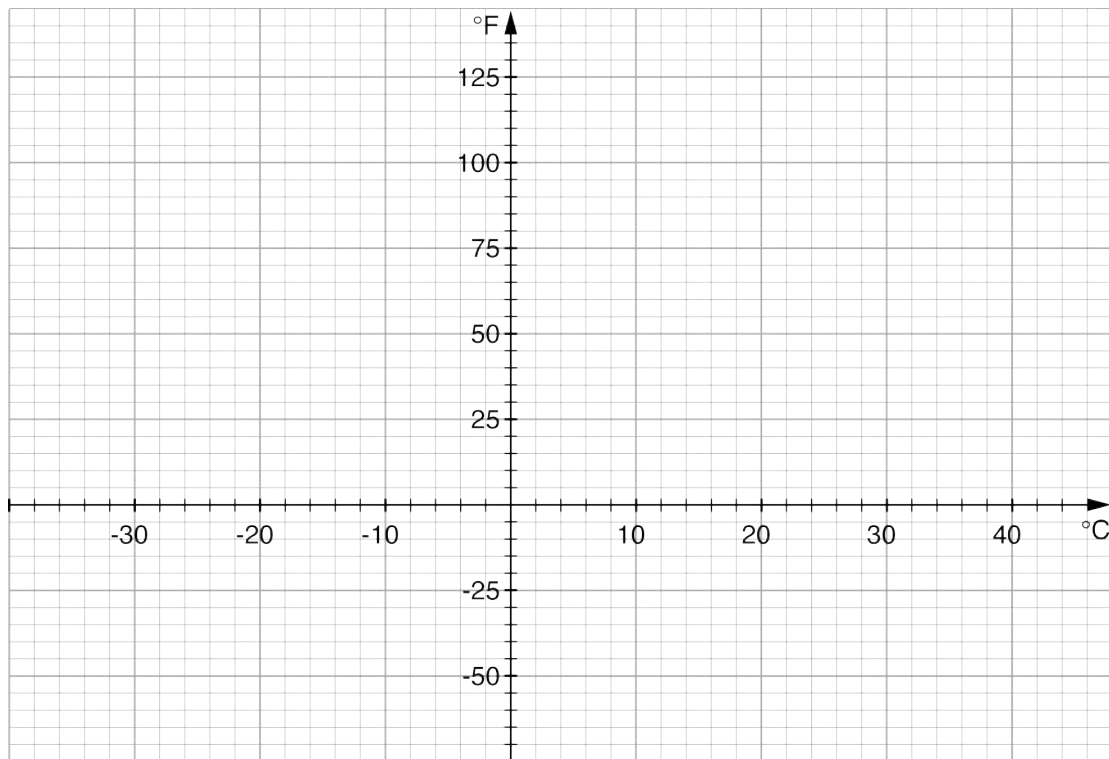
Illustrations: Jens Ahlbom

1. Which of the following numbers is the best approximation of $\frac{148}{0.53}$?
Circle your answer.

30	75	150	300	750	(1/0/0)
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2. Solve the equation $4x + 17 = 9$ Answer: $x =$ _____ (1/0/0)

3. The relation between temperatures measured in degrees Celsius ($^{\circ}\text{C}$) and degrees Fahrenheit ($^{\circ}\text{F}$) can be described as a linear relation. -18°C corresponds to roughly 0°F and 38°C corresponds to roughly 100°F .



- a) Draw a graph in the coordinate system showing the relation between temperatures measured in degrees Celsius ($^{\circ}\text{C}$) and degrees Fahrenheit ($^{\circ}\text{F}$). (1/0/0)

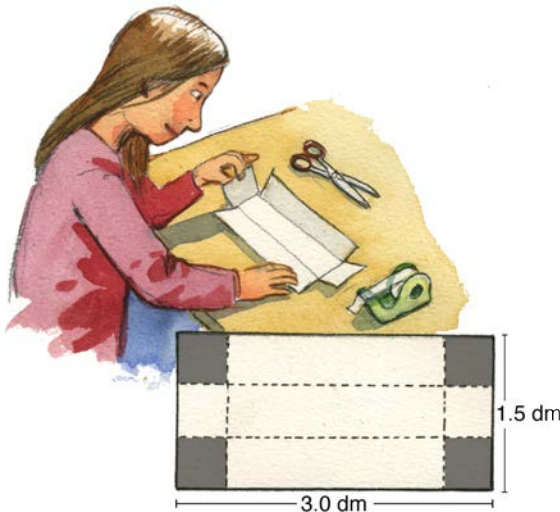
- b) Use your graph to see how many degrees Fahrenheit ($^{\circ}\text{F}$) correspond to 0°C .
- Answer: _____ $^{\circ}\text{F}$ (1/0/0)

4. The lemonade should be mixed 1 + 4.
This means that you mix 1 part lemonade
and 4 parts water in a glass.
How many per cent of the mixed
drink in the glass is water?



Answer: _____ % (1/0/0)

5. Kim is making an open box out of paper.



Kim has a rectangular sheet of paper with the measurements shown in the picture.
She cuts out the highlighted corner pieces, folds the sides up and tapes it into
an open box. The box is 0.5 dm high.

What proportion of the rectangular paper did Kim remove?
Show your solution.

(2/0/0)

6. Which (one or more) alternatives correspond to 0.12 %?
Circle your answer(s).

12 ‰

1.2 ‰

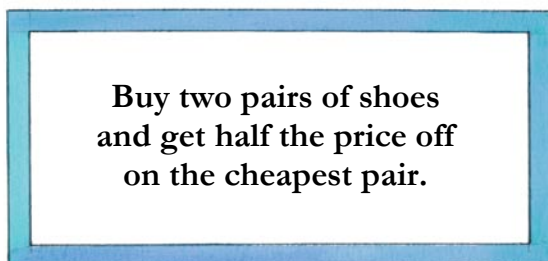
120 ‰

120 ppm

1200 ppm

(1/1/0)

7. A shoe store has the following offer:



Lisa buys two pairs of shoes. Both pairs are the same price.
What percentage discount does she get on the full purchase?

Answer: _____ ‰ (0/1/0)

8. Three people pick strawberries together for four hours. If there instead had been six people picking strawberries together, it would have taken two hours to pick the same amount of strawberries. This presumes that everyone picks the same amount of strawberries per hour.

The table shows how long it will take different numbers of people to pick the same amount of strawberries. Fill in the missing values in the table.

Number of people	1	2	3		6
Number of hours			4	3	2

(1/1/0)

9. What is the value of the expression $3x + 12$ if $x + 4 = 12$?

Answer: _____ (0/1/0)

10. Circle the powers that have the same value.

0^5 1^4 2^3 3^2 4^1 5^0 (0/1/0)

11. All 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 _____ (0/1/0)



12. 15 % of a is equal to b . Write 30 % of $3a$ expressed in terms of b . Show your solution.

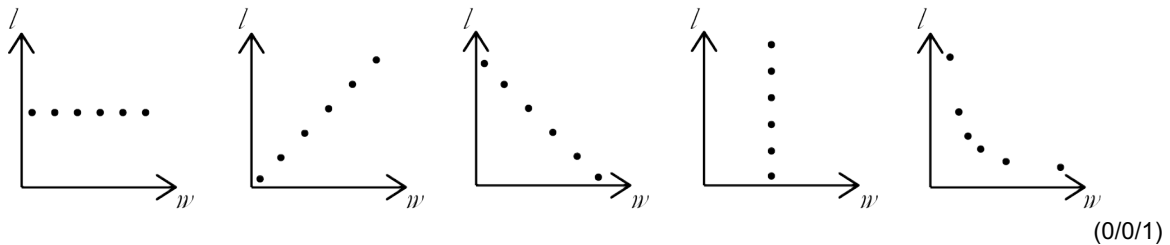
Answer: _____ (0/1/1)

13. There are many different values of x and y that solve the equation $8x - y = 10$.

Find a solution for the equation where x and y have the same value.

Answer: _____ (0/0/1)

14. Berit is going to investigate various possible values of length (l) and width (w) in a rectangle with an area of 12 cm^2 . She marks different values for length and width in a diagram. What should her diagram look like?
Circle your answer.



Compilation of student results

National test in mathematics 1a spring 2017

Part A

	Score		
	E	C	A
Method and carrying through			
Presentation			
Total			
Maximum score	4	4	3

Part B

	Score		
	E	C	A
1			
2			
3 a)			
3 b)			
4			
5 ₁			
5 ₂			
6 ₁			
6 ₂			
7			
8 ₁			
8 ₂			
9			
10			
11			
12 ₁			
12 ₂			
13			
14			
Total			
Maximum score	9	7	3

Part C

	Score		
	E	C	A
Method and carrying through			
Presentation			
Total			
Maximum score	4	4	4

Part D

	Score		
	E	C	A
16 ₁			
16 ₂			
17 ₁			
17 ₂			
18 a)			
18 b) ₁			
18 b) ₂			
19 ₁			
19 ₂			
19 ₃			
20 ₁			
20 ₂			
21 a) ₁			
21 a) ₂			
21 b)			
22 a)			
22 b)			
22 c) ₁			
22 c) ₂			
23 ₁			
23 ₂			
23 ₃			
24 ₁			
24 ₂			
24 ₃			
25 ₁			
25 ₂			
25 ₃			
26 ₁			
26 ₂			
26 ₃			
27 ₁			
27 ₂			
27 ₃			
Total			
Maximum score	16	12	6

Name: _____

Summary

	E	C	A	Total
Total				
Maximum score	33	27	16	76

Test grade

Limit for test grade

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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.