

Mathematics

Delprov B

1b

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 80 points.

Limit for test grade

E: At least 18 points.

D: At least 33 points of which at least 13 points at level C or higher.

C: At least 41 points of which at least 19 points at level C or higher.

B: At least 54 points of which at least 7 points at level A.

A: At least 63 points of which at least 12 points at level A.

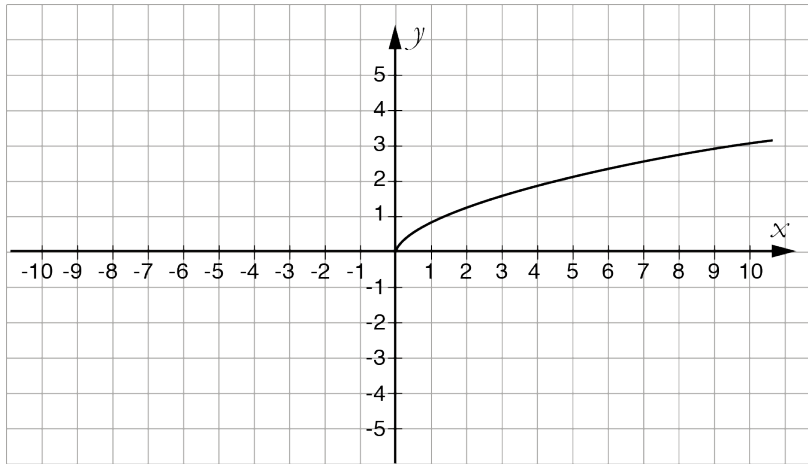
Name: _____

Date of birth: _____

Programme: _____ Class: _____

1. The graph of function $f(x)$ has been drawn below.
The graph is to be reflected in the x axis. Draw the reflection.

(1/0/0)



2. Simplify the expression $4x^2 - 3x(x + 2)$
as far as possible.

Answer: _____

(1/0/0)

3. $\frac{2}{5}$ of a number is 6. What is the number? Show your solution.

Answer: _____

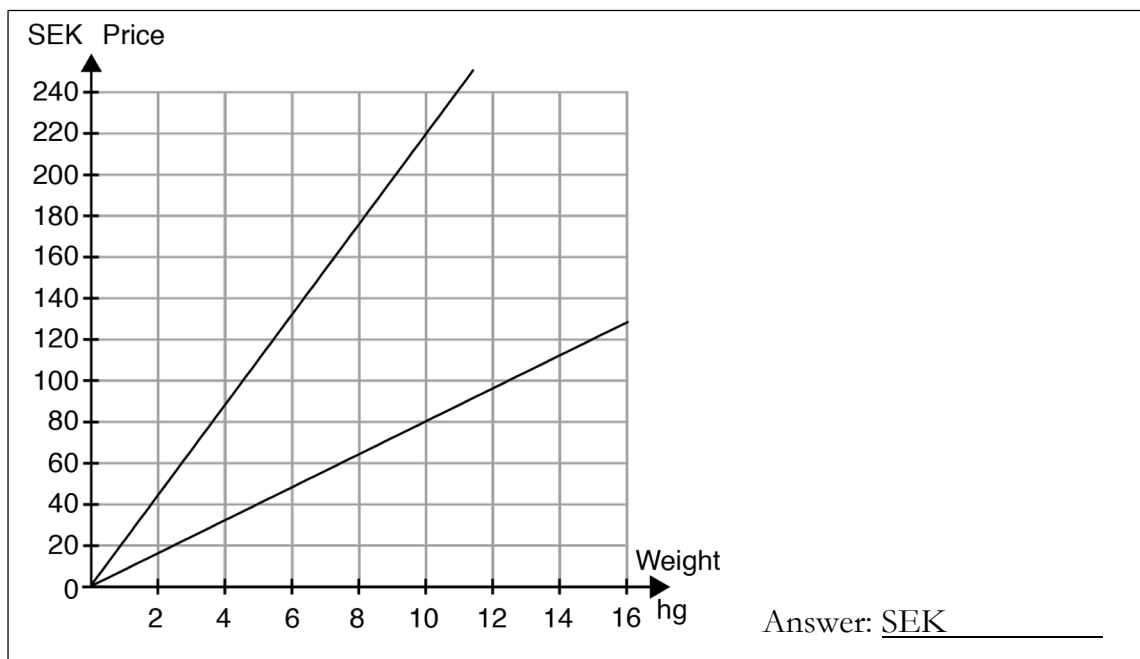
(2/0/0)

4. Solve the inequality $-3x + 4 \geq -5$

Answer: _____

(1/0/0)

5. The diagram shows how the price depends on weight, for two different kinds of coffee. How big is the difference in price per hectogram? Show your solution.



(1/1/0)

6. The following statements are either equivalences or implications. Mark all the statements that are equivalences with the symbol $\Leftrightarrow$ and statements which are only implications with symbol $\Rightarrow$ or $\Leftarrow$.

In triangle A, the sum of the squares of the catheti is equal to the square of hypotenuse.



Triangle A has one right angle.

Triangle B has one angle of 90 degrees.



Triangle B has no angle greater than 90 degrees.

Triangle C has two acute angles.



Triangle C has one right angle.

(1/1/0)

7. In a bowl that contains sweets of equal size only one of the sweets is yellow.
If you pick one sweet without looking, the probability of picking the yellow one is 0.05.
How many sweets are in the bowl?

Answer: _____

(0/1/0)

8. What number is exactly half way between 10^2 and 10^3 ?

Answer: _____

(0/1/0)

9. The table below shows a proportional relation between x and y .

x	y
1	
4	12
	30

- a) Fill in the missing values in the table.

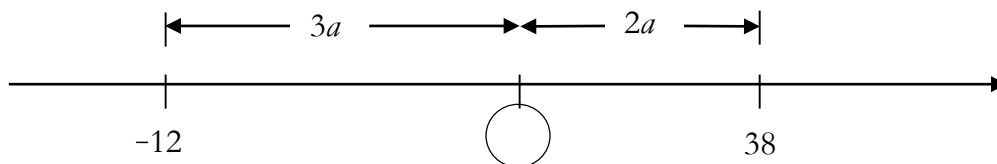
(1/0/0)

- b) Describe the relation between x and y in words or with a formula.
Write your answer in the box.

Answer:

(0/1/0)

10. Which number should be written in the circle?
Show your solution.



Answer: _____

(0/1/1)

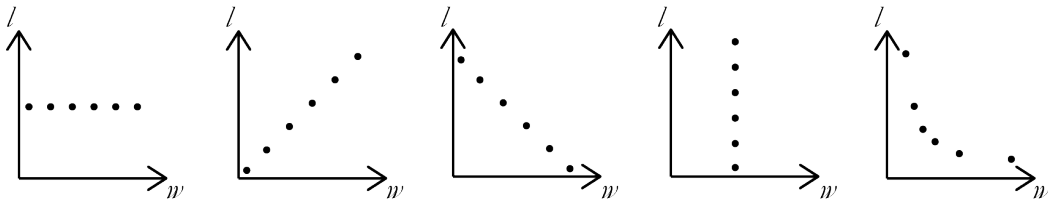
11. What is the value of the following expression if $t = 6$?

$$\sqrt{\frac{25t^4}{9}}$$

Answer: _____

(0/0/1)

12. Berit is going to examine 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.



(0/0/1)

13. Determine and simplify $f(x + 2)$ if $f(x) = 3x - 7$

Answer: _____

(0/0/1)

14. In what base are you calculating if $5 + 5 = 14$?

Answer: _____

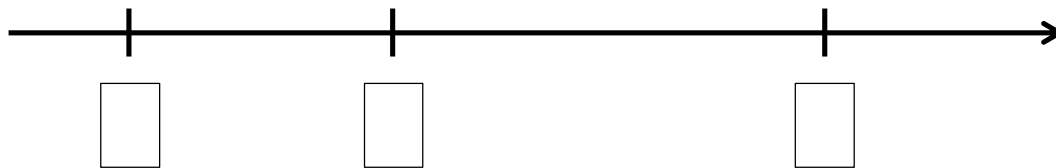
(0/0/1)

15. Place the variables x, y and z in the boxes on the number axis for the following inequalities to be valid:

$$x > y$$

$$z < x$$

$$-y > -z$$



(0/0/1)

Test result – student summary

National test in mathematics 1b spring 2016

Name:	Test grade:
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	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		5		5		14
Part B		8		6		6		20
Part C		4		4		4		12
Part D		12		16		6		34
Total		28		31		21		80

Part A	E	C	A	Score	Comment
Method and carrying through	+E _{PL} +E _M	+C _B +C _M	+A _B +A _M		
Reasoning	+E _R +E _R	+C _R +C _R	+A _R +A _R		
Communication		+C _K	+A _K		
Total	4	5	5		

Part C	E	C	A	Score	Comment
Method and carrying through	+E _P +E _{PL} +E _P	+C _B +C _P	+A _{PL} +A _P		
Reasoning	+E _R	+C _R	+A _R		
Communication		+C _K	+A _K		
Total	4	4	4		

Grading limits

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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