

Mathematics

Delprov B

Elevhäfte

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. 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 89 points.

Limit for test grade

E: At least 21 points.

D: At least 35 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 58 points of which at least 6 points at level A.

A: At least 67 points of which at least 11 points at level A.

Name: _____

Date of birth: _____

Secondary program: _____ Class: _____

Illustration: Jens Ahlbom

1. A child's estimated need for sleep can be calculated using the formula

$$S = 15 - \frac{n}{2}$$

where S is the number of hours of sleep per 24 hours and n is the age of the child in years.

William is 6 years old. How many hours of sleep does he need according to this formula?

Answer: _____ hours (2/0/0)

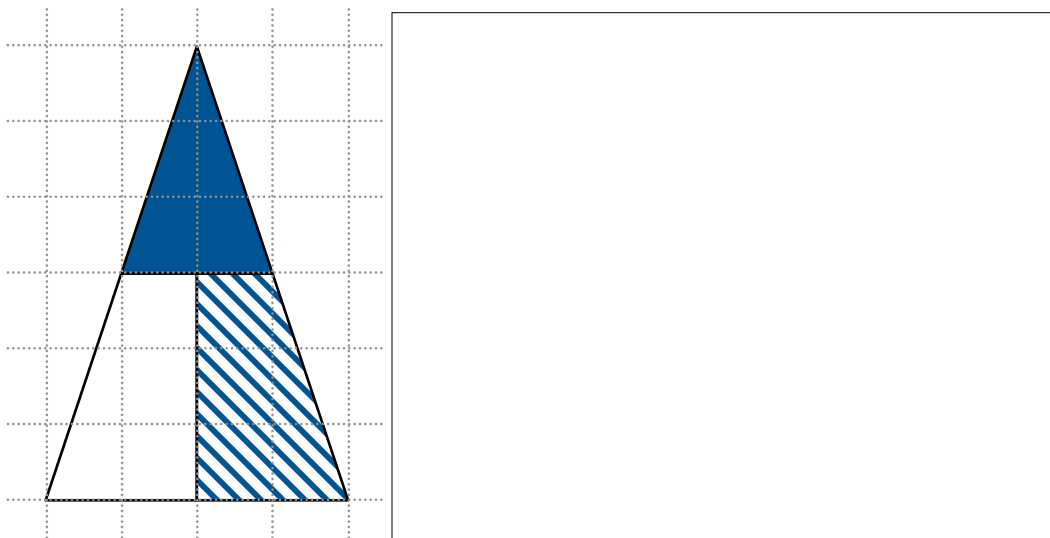
2. Write an expression $a + 5$ if $a = b + 2$

Answer: $a + 5 =$ _____ (1/0/0)

3. Calculate the value of $102 - 2x$ if $x = -10$

Answer: _____ (1/0/0)

4. What portion of the total area of the triangle is the striped region?
Explain your answer, using the figure and the box.



(1/1/0)

5. Write 132 as a product of prime numbers.

Answer: _____

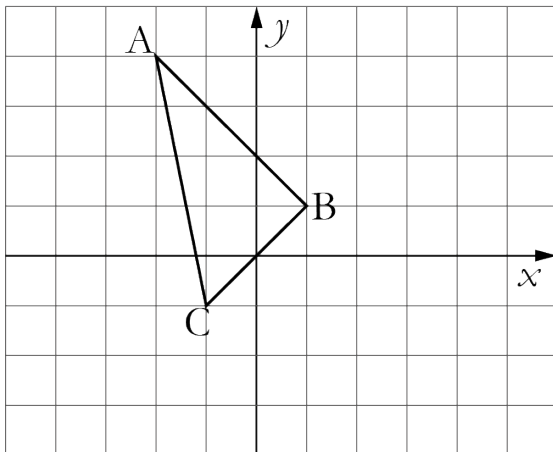
(1/1/0)

6. Solve the equation $2(4x + 1) = 4(2 - x)$
Show your solution in the box.

Answer: $x =$ _____

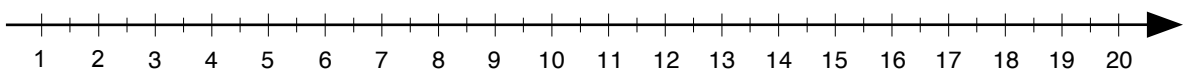
(1/1/0)

7. Draw a triangle that is a reflection of the triangle ABC on the y axis.



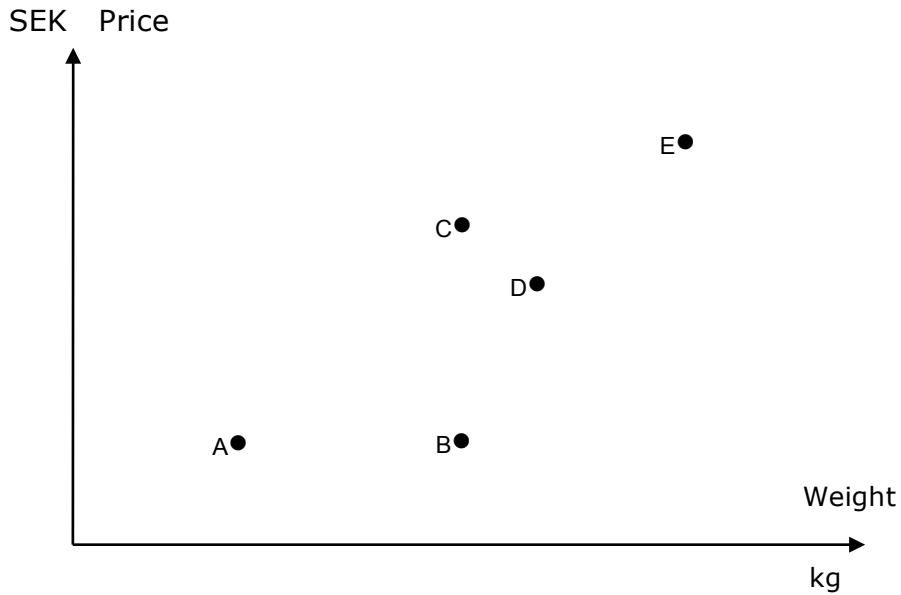
(1/1/0)

8. Mark with an x, the number $\sqrt{10}$ on the scale below.



(0/1/0)

9. A shop conducted a survey regarding the weight and price of chocolate bars. The result is shown in the following diagram.



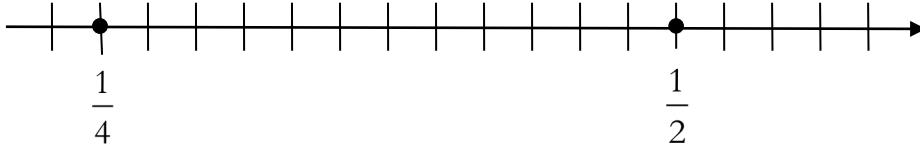
- a) Which chocolate bars have the same weight? Answer: _____ (1/0/0)
- b) Which chocolate bar has the highest price per kilo?
Show your reasoning in the diagram and the box.

Answer: _____ (0/2/1)

10. The limit value of the metal copper in textiles is 25 ppm. How many *per cent* of copper does this value correspond to? Answer: _____% (0/1/0)

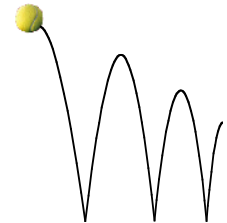
11. Which of the numbers a , b , c , d or e cannot be equal to zero in order for the following equation to be true?
 $a(b(c + d) + e) = 125$ Answer: _____ (0/1/0)

12. The numbers $\frac{1}{4}$ and $\frac{1}{2}$ are marked on the scale. Mark the number $\frac{1}{3}$ with an x on the scale. Show your solution in the figure and the box.



(0/1/1)

13. A ball is dropped to the floor. The bouncing height is described using the formula $b = 2.0 \cdot 0.65^x$ where b is the bouncing height in metres and x is the number of bounces. Show your work in the box.



- a) What does the value 2.0 stand for in the formula? (0/1/0)
- b) What is calculated using the expression: $2.0 \cdot 0.65^4 - 2.0 \cdot 0.65^5$ (0/2/1)
- c) Which *question* does the solution to the following inequality answer:
 $0.5 < 2.0 \cdot 0.65^x$ (0/0/2)

Resultatredovisning – Sammanfattning Elev

Nationellt kursprov i matematik, kurs 1b ht 2013

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
Del A – muntlig del		3		5		5		13
Del B		9		13		5		27
Del C		3		5		4		12
Del D		16		13		8		37
Totalt		31		36		22		89

Del A – muntlig del	E	C	A	Poäng	Motivering
Metod och genomförande	+E _M	+C _B +C _M	+A _B +A _M		
Resonemang	+E _R +E _R	+C _R +C _R	+A _R +A _R		
Kommunikation		+C _K	+A _K		
Summa	3	5	5		

Del C	E	C	A	Poäng	Motivering
Metod och genomförande	+E _P +E _{PL}	+C _B +C _P +C _{PL}	+A _B +A _{PL}		
Resonemang	+E _R	+C _R	+A _R		
Kommunikation		+C _K	+A _K		
Summa	3	5	4		

Kravgränser

Gräns för provbetyget

E: Minst 21 poäng.

D: Minst 35 poäng varav minst 11 poäng på lägst nivå C.

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

B: Minst 58 poäng varav minst 6 poäng på nivå A.

A: Minst 67 poäng varav minst 11 poäng på nivå A.

Kommentarer:

Blanketten finns att hämta på www.prim-gruppen.se