Mathematics

Delprov B

Elevhäfte

1c

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. 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 91 points.

Limit for test grade
E: At least 20 points.
D: At least 34 points of which at least 12 points at level C or higher.
C: At least 45 points of which at least 21 points at level C or higher.
B: At least 58 points of which at least 8 points at level A.
A: At least 68 points of which at least 14 points at level A.

Name: _____

Date of birth: _____

Secondary program:_____ Class: _____

1. Calculate the value of $102 - 2x$ if $x = -10$ Answer: _____   (1/0/0)

2. Herman and Felicia competed in a race and started at the same time. The graph shows how Herman ran his race from start to finish. Felicia beat Herman. Draw a graph showing how Felicia might have run.

Distance

Finish

Herman

Start   Time   (1/0/0)
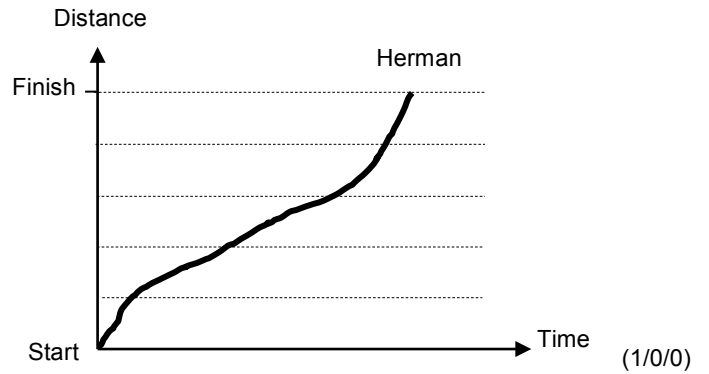
3. A child's estimated need for sleep can be calculated using the formula
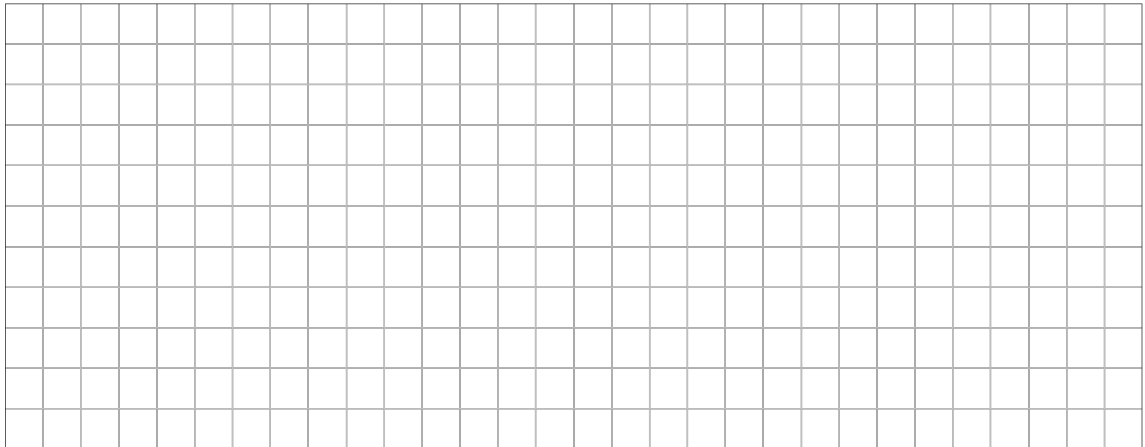
$$S = 15 - \frac{n}{2}$$

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)
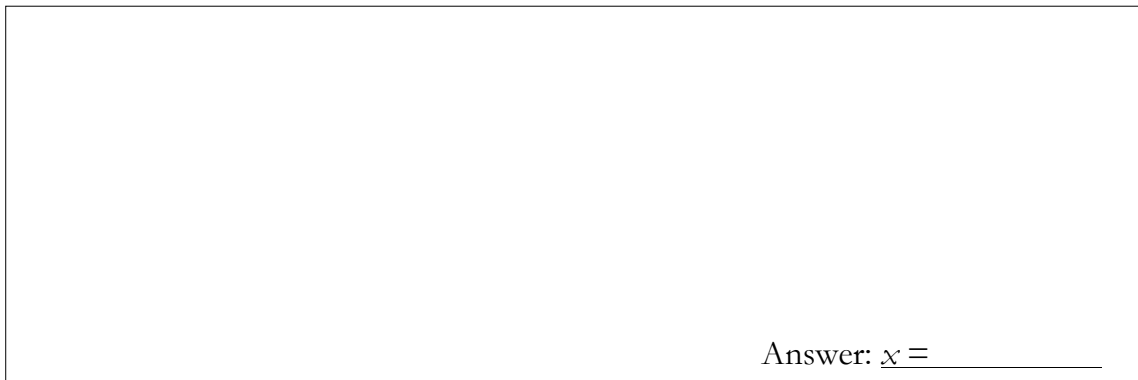
4. Write an expression $a - 5$ if $a = b + 2$ Answer: $a - 5 =$ _____   (1/0/0)

5. Find the resultant of the three vectors (0,4), (5,0) and (0,–2).
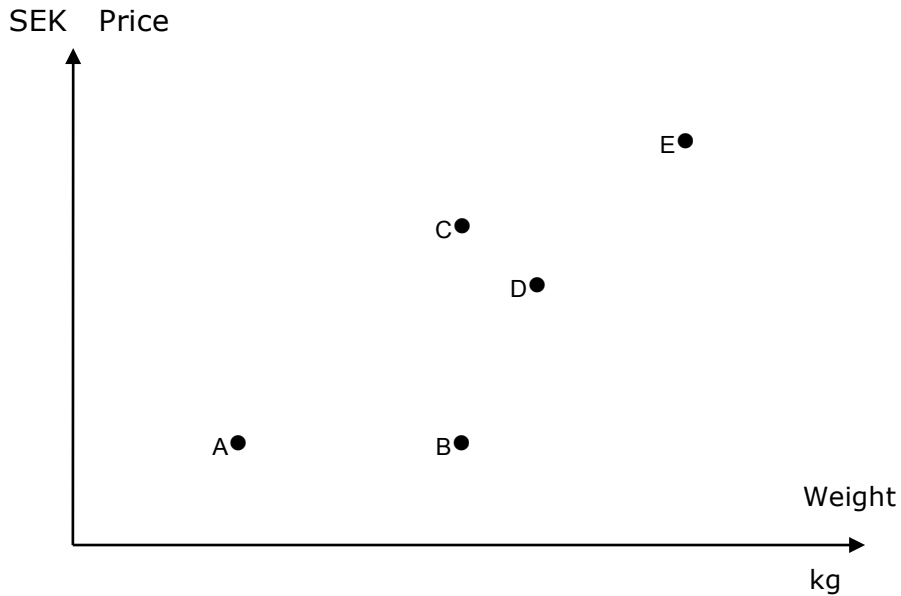Show your solution in the box.

(2/0/0)

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

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

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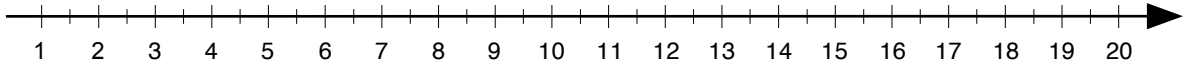
SEK   Price

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)

8. Write 132 as a product of prime numbers.   Answer: _____   (1/1/0)

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

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1  2  3  4  5  6  7  8  9  10  11  12  13  14  15  16  17  18  19  20
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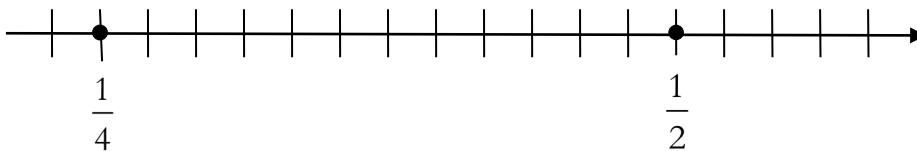
(0/1/0)

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

$$\dfrac{1}{4} \qquad\qquad\qquad\qquad \dfrac{1}{2}$$

(0/1/1)

12. 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)

13. A ball is dropped to the floor. The bouncing height is described using the formula
    $h = 2.0 \cdot 0.65^x$ where *h* 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)
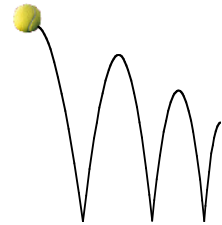
    b) What is calculated using the expression: $2.0 \cdot 0.65^4 - 2.0 \cdot 0.65^5$ (0/2/1)

    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 1c ht 2013

Namn:	Provbetyg:

	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		10		11		5		26
Del C		3		5		4		12
Del D		11		16		13		40
Totalt		**27**		**37**		**27**		**91**

Del A – muntlig del	E	C	A	Poäng	Motivering
Metod och genomförande	$+E_M$	$+C_B$	$+A_B$		
		$+C_M$	$+A_M$		
Resonemang	$+E_R$	$+C_R$	$+A_R$		
	$+E_R$	$+C_R$	$+A_R$		
Kommunikation		$+C_K$	$+A_K$		
Summa	**3**	**5**	**5**		

Del C	E	C	A	Poäng	Motivering
Metod och genomförande	$+E_P$	$+C_B$	$+A_B$		
		$+C_P$			
	$+E_{PL}$	$+C_{PL}$	$+A_{PL}$		
Resonemang	$+E_R$	$+C_R$	$+A_R$		
Kommunikation		$+C_K$	$+A_K$		
Summa	**3**	**5**	**4**		

Kravgränser

Gräns för provbetyget

E: Minst 20 poäng.
D: Minst 34 poäng varav minst 12 poäng på lägst nivå C.
C: Minst 45 poäng varav minst 21 poäng på lägst nivå C.
B: Minst 58 poäng varav minst 8 poäng på nivå A.
A: Minst 68 poäng varav minst 14 poäng på nivå A.

Kommentarer:

PRIM gruppen