

Mathematics

Delprov B

Årskurs

9

Elevens namn och klass/grupp

Instructions – Part B

This part consists of tasks to be solved without a calculator or formula sheet.

The maximum number of points you can get for your solution is shown after each task. For example, (1/1/0) means that the task can give 1 E-point, 1 C-point and 0 A-points.

Aids: ruler

You will be given Part B and Part C at the same time. You are not allowed to use a calculator for Part B. When you hand in Part B you will be given a calculator. We recommend that you review Part C before handing in Part B. This can help you use your time well.

Time for the part: 80 minutes in total for Part B and Part C together.

Write your answers in the test booklet.

Name: _____

School: _____ Class: _____

Date of birth (year/month/day): _____

Good luck!

Illustrations: Jens Ahlbom

CALCULATOR NOT ALLOWED

1. Calculate $13.9 - 8.85$

Answer: _____

(1/0/0)

2. Amir and Lisa buy potatoes with the same price per kilo (SEK/kg).
Fill in the weight of Lisa's potatoes in the table.

	Weight (kg)	Price (SEK)
Amir	1.5	6
Lisa		18

(1/0/0)

3. Which of the following numbers is the best approximation of $\frac{13}{4.32}$?
Circle your answer.

0.03

0.3

3

30

300

(1/0/0)

4. What is half of $\frac{1}{9}$? Answer with a fraction.

Answer: _____

(1/0/0)

5. Solve the equation

$$2x + 5 = 3x$$

Answer: $x =$ _____

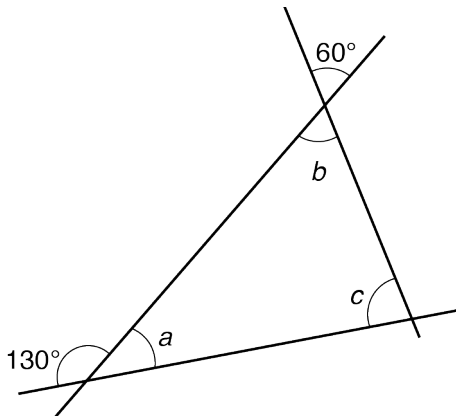
(1/0/0)

6. You are to calculate how much candy you can buy for SEK 20 if you know that the candy costs SEK 6.90 per hg. Which of the following calculations should you choose? Circle your answer.

$20 + 6.90$ $\frac{20}{6.90}$ 20×6.90 $20 - 6.90$ $\frac{6.90}{20}$ (1/0/0)

7. 20 % of a number is 30. What is the number? Answer: _____ (1/0/0)

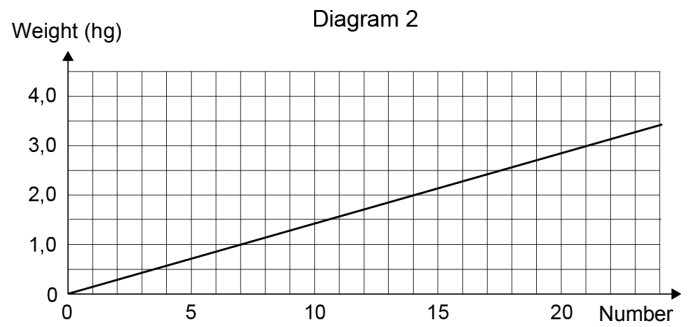
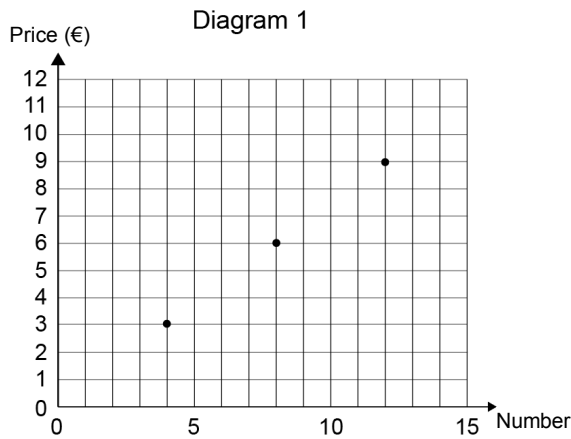
8. The figure below shows three lines that intersecting to form a triangle. *The figure is not drawn to scale.*



Determine the angles a , b and c .

$a =$ _____ $^{\circ}$ $b =$ _____ $^{\circ}$ $c =$ _____ $^{\circ}$ (2/1/0)

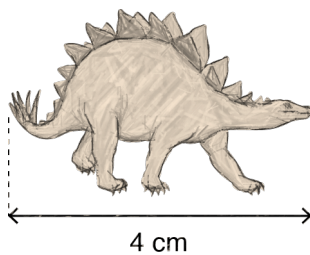
9. A shop in Germany sells chocolates that are priced individually. Diagram 1 shows the price in euros (€) for some different quantities of chocolates. Diagram 2 shows the weight of different quantities of chocolates.



Answer the following questions with the help of the diagrams.

- a) How much do four chocolates cost? Answer: _____ € (1/0/0)
- b) How many chocolates do you get if you buy 3 hg? Answer: _____ pieces (1/0/0)
- c) You want to buy 2 hg of chocolates. How much does that cost? Answer: _____ € (0/1/0)

10. The dinosaur is 20 m long in reality. To what scale is the picture drawn?



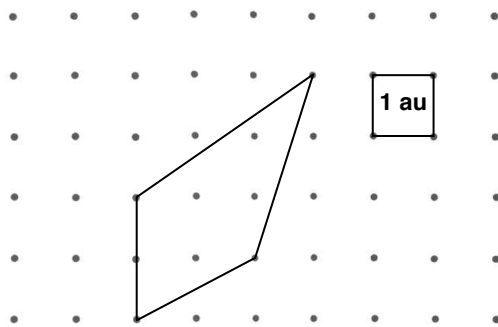
Answer: _____ (0/1/0)



11. In 2005 there were about 50 000 wild boar in Sweden.
 In 2014 there were about 300 000 wild boar in Sweden.
 What percentage did the number of wild boar increase
 by between 2005 and 2014?

Answer: _____ % (0/1/0)

12. Determine the figure's area in area units.



Answer: _____ au (0/1/0)

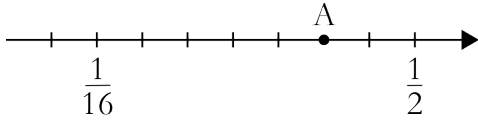
13. Mark three numbers on the line.

- Mark 2^3 on the line with an arrow and write A next to the arrow.
- Mark $\sqrt{26}$ on the line with an arrow and write B next to the arrow.
- Mark 9×10^{-1} on the line with an arrow and write C next to the arrow.



(1/1/1)

14. What number is marked by point A? Answer with a fraction.



Answer: _____ (0/1/0)

15. Which expression has the greatest value when n is a *negative* number?
Circle your answer.

$n - 2$ $2n$ n^2 $\frac{n}{2}$ $\frac{2}{n}$
(0/1/0)

16. a) Write an integer number in the box so that the equality is maintained. (0/1/0)

$$\frac{1}{3} = \frac{(-2)}{\boxed{}}$$

- b) Write a power of ten in the box so that the equality is maintained. (0/0/1)

$$\frac{1}{10^3} = \frac{\boxed{}}{10^{12}}$$

17. Simplify the expression $\frac{6x + 3x}{6x - 3x}$ as far as possible. Answer: _____ (0/1/0)

18. Write a formula that describes the relationship between x and y .

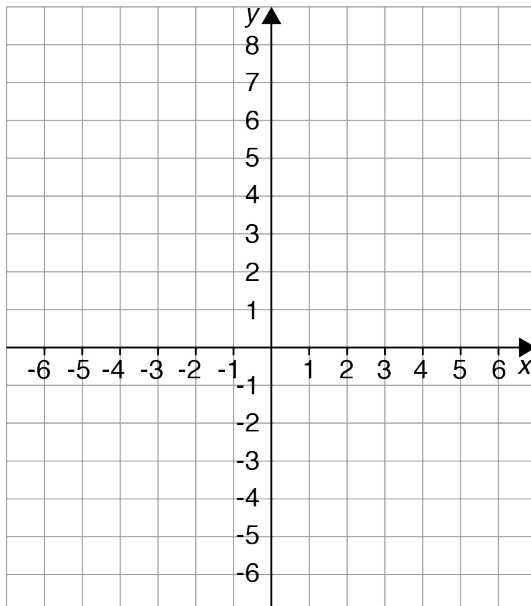
x	y
5	13
7	17
9	21

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

19. $A=(2, 1)$, $B=(-3, 4)$, $C=(1, -3)$
are three points in a coordinate system.

a) Draw the points A, B and C in the coordinate system. (1/0/0)

b) Form a parallelogram where the points A, B and C are three of the corners. Which points are possible for the corner D? Draw in the points and give the coordinates.



Answer: _____ (0/2/1)

