

Mathematics

Delprov B

ÅRSKURS

9

Elevens namn och klass/grupp

Instructions – Part B

This part consists of questions to be answered without digital devices and formula sheets.

The maximum number of points you can be given for your answer is shown after each question, for example (2/1/0) means that the question is worth 2 E-points, 1 C-point and 0 A-points.

Aids: Ruler

You are given Part B and Part C together. In Part B you are not allowed to use digital devices and formula sheets. After you have handed in Part B you can use digital devices and formula sheets. You can start Part C before you hand in Part B.

Time allowed: 80 minutes for Part B and Part C together.

Write your answers in this booklet.

Name: _____

School: _____ Class: _____

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

Good luck!

Illustrations: Jens Ahlbom

1. Calculate $36 - 6 \cdot 0.5$

Answer: _____ (1/0/0)

2. Continue the number sequence

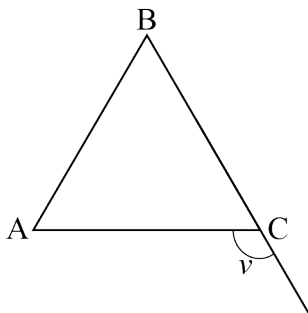
0.84 0.91 0.98 _____ _____

(1/0/0)

3. Write the number 46 000 000 in scientific notation.

Answer: _____ (1/0/0)

4. The triangle ABC is equilateral. What size is angle v ?



Answer: _____ $v =$ _____ $^{\circ}$ (1/0/0)

5. In an ice cream parlour, Adam can choose between

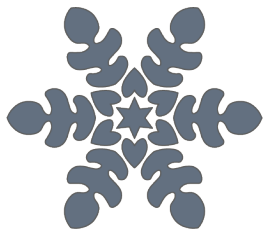
- 2 different types of cones
- 4 different flavours of soft ice cream
- 7 different types of sprinkles.

How many different ice cream combinations can he make if each ice cream consists of one type of cone, one flavour and one type of sprinkles?



Answer: _____ combinations (1/0/0)

6. How many symmetry lines are there in the snowflake in the illustration?



Answer: _____ (1/0/0)

7. How many hours and minutes are there in 8.4 h?

Answer: _____ h _____ min (1/0/0)

8. Leila throws a 6-sided dice five times. What is the probability that she throws a “three” five times in a row? Circle your answer.



6^5 $\left(\frac{1}{3}\right)^5$ $\frac{5}{6}$ 3^5 $\left(\frac{1}{6}\right)^5$

(1/0/0)

9. Do the calculation and answer in fraction form.

a) $\frac{1}{7} + \frac{1}{5}$

Answer: _____ (1/0/0)

b) $\frac{1}{7} \div \frac{1}{5}$

Answer: _____ (0/1/0)

10. Calculate $10^4 + 10^2 + 10^0$

Answer: _____ (0/1/0)

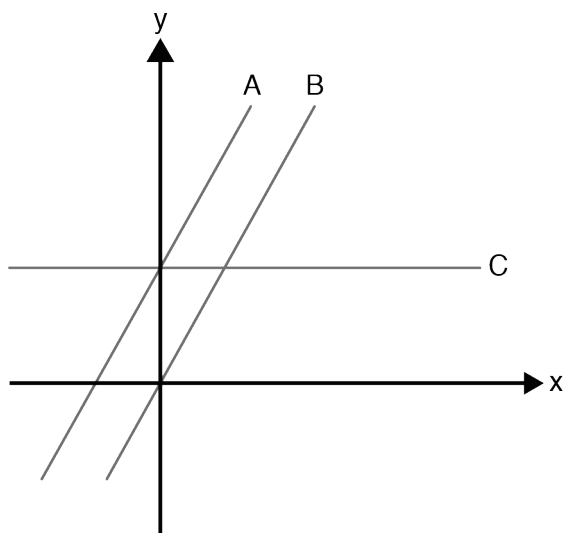
11. Which number is the largest? Circle your answer.

$$\frac{1}{13} \quad \frac{1}{\pi} \quad \frac{1}{310} \quad \frac{1}{\sqrt{3}} \quad \frac{1}{3}$$

(0/1/0)

12. Line A and B are parallel. Line C is in parallel with the x -axis.
Give the equation for line B and line C respectively.

Line A: $y = 20x + 100$

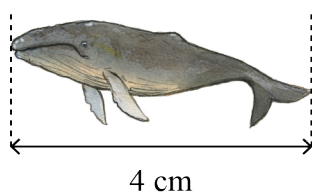


Line B: $y =$ _____

Line C: $y =$ _____

(1/1/0)

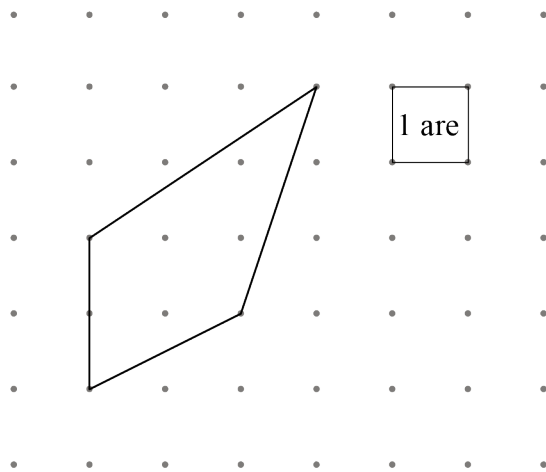
13. The blue whale is 20 metres long in reality.
What scale is the illustration drawn to?



Answer: _____ (0/1/0)

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

15. Determine the area of the figure expressed in area units (are).



Answer: _____ are (0/1/0)

16. What is the value of x in the equation $5 - \sqrt{x} = -1$ Answer: $x =$ _____ (0/1/0)

17. A product increases in price from a Swedish crowns to b Swedish Crowns. Which expression shows how to determine the percentage increase? Circle your answer.

$\frac{a}{b}$ $\frac{b-a}{a}$ $\frac{b-a}{b}$ $\frac{a-b}{a}$ $\frac{b+a}{b}$

(0/1/0)

18. Calculate the value of the expression $2ab - b$ if $a = 4$ and $b = (-6)$

Describe your solution here.

Answer: _____ (0/2/0)

19. Which measurements are of equal size?
Circle your answer.

40 cl 0.4 dl 4 dm³ 40 cm³ 0.4 cl (0/0/1)

20. Give a value for x so that the equality is correct.

$$100^{12} = 10^x$$

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

