

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 and begin with 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

1. Calculate $20 - 5 \times 2 + 3$ Answer: _____ (1/0/0)

2. Examine the sequence. Fill in the missing number.

2 5 11 20 32 _____ (1/0/0)

3. What is half of $\frac{1}{9}$? Answer with a fraction. Answer: _____ (1/0/0)

4. Which of the following numbers is the best approximation of $\frac{13}{0.432}$?

Circle your answer.

0.03 0.3 3 30 300 (1/0/0)

5. How many washes will 1 litre of washing detergent cover if the household uses 0.04 litres of washing detergent per wash?

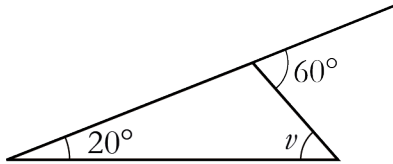
Answer: _____ washes (1/0/0)

6. Calculate the value of the expression $m + \frac{1}{m}$ where $m = 4$. Answer: _____ (1/0/0)

7. A car travels 6 km in 5 minutes. Calculate the car's average speed in km/h.

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

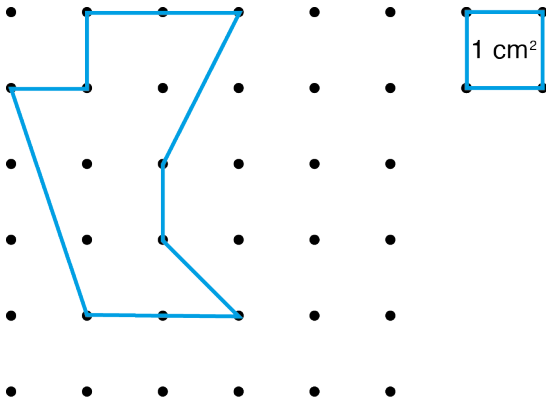
8. What is the angle v ?



The figure is not drawn to scale.

Answer: _____ ° (1/0/0)

9. What is the area of the figure?



Answer: _____ cm² (1/0/0)

10. The price of a product is SEK 3 500. The price initially increases by 3 % and then decreases by 10 %. Circle the expression that describes the new price.

$0.03 \times 0.10 \times 3\,500$

$1.03 \times 0.10 \times 3\,500$

$1.03 \times 1.10 \times 3\,500$

$0.07 \times 0.10 \times 3\,500$

$1.03 \times 0.90 \times 3\,500$

(0/1/0)

11. The temperature in Nydala is 1.8 °C. What is the temperature in Torp, if it is 3.2 °C colder there?

Answer: _____ °C (0/1/0)

12. Which number is the greatest and which is the smallest?

2^4 $\sqrt{35}$ 2π 3^2 $\sqrt{80}$

Answer: greatest: _____ (1/1/0)
smallest: _____

13. The interest rate is increased from 4 % to 6 %.
 Which of the following statements apply?
 Circle your answer(s).

An increase of 2 %

An increase of 50 %

An increase of 2 percentage points

An increase of 50 percentage points

An increase of 33 %

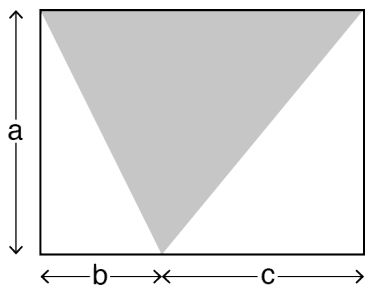
An increase of 67 %

(1/1/0)

14. Which number is twice as great as 2.4×10^8 ?
 Answer using scientific notation.

Answer: _____ (0/1/0)

15. Write an expression for the area of the shaded triangle.

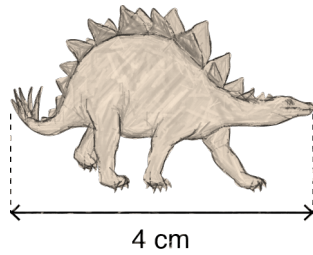


Answer: _____ area units (0/1/0)

16. The sum of one positive and one negative integer is -2 .
 Give a suggestion for which two integers this could be.

Answer: _____ and _____ (0/1/0)

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



Answer: _____ (0/1/0)

18. Simplify the expression $\frac{6x + 3x}{6x - 3x}$ as far as possible.

Answer: _____ (0/1/0)

19. A bowl of sweets contains 6 raspberry boats and 4 liquorice boats.



If you want to, you can use the tree diagram when solving the problems.

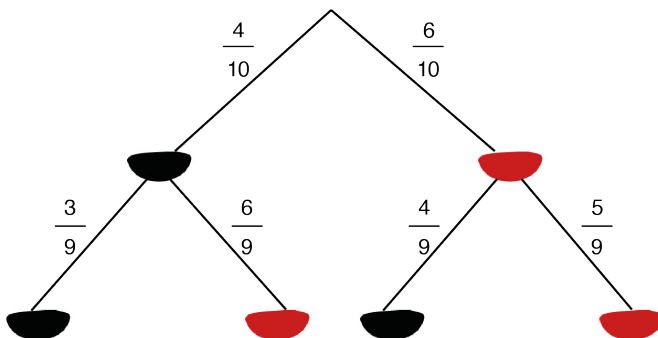
- a) If you take one sweet without looking, what is the probability that you will get a liquorice boat?

Answer: _____ (1/0/0)

- b) If you instead take two sweets without looking, what is the probability that you will get two raspberry boats?

Show your solution here:

Answer: _____ (0/1/1)



20. Which measurements are the same size? Circle your answer.

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

21. In a parallelogram, one angle is twice the size of another angle in the same parallelogram. What size are these angles?

Answer: _____ ° and _____ ° (0/0/1)

22. The area of a heart is 80 cm². The heart is to be depicted at a scale (length) of 1:4. Find the area of the depicted heart.



Answer: _____ cm² (0/0/1)

The figure is not drawn to scale.

