Mathematics

Part B

Årskurs

9

Elevens namn och klass/grupp

Skolverket

Instructions

This part consists of tasks to be solved without a calculator and formula sheet. For a couple of the tasks you have to show your solution and for the other tasks you only have to write the answer.

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.

Time for the part: 80 minutes for Part B and Part C together. We recommend that you use no more than 40 minutes for work on Part B. You are not allowed to use a calculator until you have handed in Part B.

Write your answers in the student booklet.

You can save time by doing mental arithmetic as much as possible.

Name: _____

School: _____ Class: _____

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

Girl ☐ Boy ☐

Good luck!

1. Calculate $2.35 - 0.5$ Answer:_____   (1/0/0)

2. Calculate $8 \cdot 0.3$ Answer:_____   (1/0/0)

3. Calculate $6 + 4 \cdot 3$ Answer:_____   (1/0/0)

4. Robin has five cards that show different shapes.
He mixes the cards and chooses a card at random.

What is the probability that he will choose a card
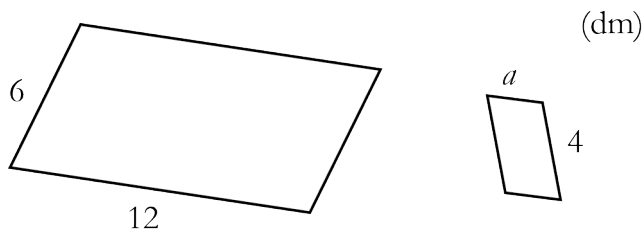showing a quadrilateral?   Answer:_____   (1/0/0)

5. Calculate $\dfrac{10^2}{5^2}$ Answer:_____   (1/0/0)

6. Which of the following numbers is the best
approximate value of $25.6 \cdot 0.45$? Circle your answer.

0.115   1.15   11.5   115   1150   (1/0/0)

7. The parallelograms are similar.
How long is side a?

(dm)

Answer:_____ dm   (1/0/0)

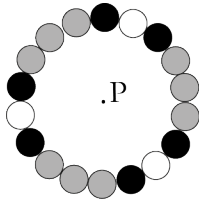**8.** What is half of $\dfrac{1}{3}$?

Write the answer as a fraction. Answer: _____ (1/0/0)

9. Solve the equation $\dfrac{x}{2} + 1 = 5$ Answer: $x =$ _____ (1/0/0)

10. How many degrees does the ring have to be rotated around the mid-point P so that the pattern will coincide with the original pattern?
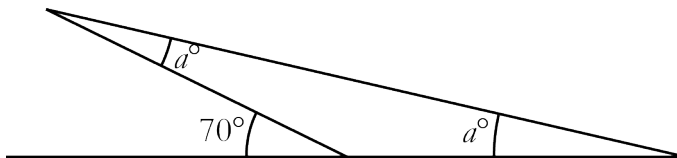State the *smallest possible* number of degrees.

.P

Answer: _____ ° (0/2/0)

11. Which number is smallest? Circle your answer.

$3\dfrac{2}{5}$ π 3 $\dfrac{10}{3}$ $\sqrt{8}$ (0/1/0)

12. How many degrees is the angle *a*?

$a°$

$70°$ $a°$

Answer: _____ ° (0/2/0)

13. Write the numbers that are missing in the boxes
so that the equalities are correct.

a) (0/1/0)

$$\frac{\boxed{1}}{\boxed{4}} + \frac{\boxed{}}{\boxed{8}} = 1$$

b) (0/0/1)

$$\frac{\boxed{1}}{\boxed{3}} + \frac{\boxed{8}}{\boxed{}} = 1$$

14. You know the average age of three adults.
Which two of the following questions
can you then answer correctly?
Circle the *two* correct alternatives. (0/1/1)

• How old is each of these persons?

• What was the average age of these persons
exactly two years ago?

• What is the average age of two of these persons?

• What is the total age of these persons?

15. Simplify $\dfrac{3x + x}{x}$ as far as possible.　　　Answer:_____ (0/0/1)

16. Calculate the value of the expression $\dfrac{a}{b} - c$

when $a = 8 \cdot 10^7$, $b = 2 \cdot 10^4$, $c = 8 \cdot 10^2$

Show your calculations in the box.

Answer: _____   (0/2/1)

17. Solve the equation $2(x + 1) = 5 - 2x$

Show your solution in the box.

Answer: $x =$ _____   (0/2/1)

PRIM
gruppen