

8th Kyu

算数検定

PROFICIENCY TEST
IN
PRACTICAL MATHEMATICS

Test Time : 50 minutes

Test Instructions

- 1 . Make sure that you have the correct level (Kyu) test.
- 2 . Do not open the booklet until you are told to do so.
- 3 . Write your examinee number and name on this page.
- 4 . Write your name, examinee number and other necessary information on the answer sheet.
- 5 . You may use a ruler, protractor and compass. However, you may not use a calculator.
- 6 . Turn off your cell phone and do not use it during the test.
- 7 . Write your answers on the answer sheets provided.
- 8 . Ask an examination supervisor if the printing on your problem sheets is unclear.
- 9 . It is prohibited to disclose the problems to the general public.

Examinee Number	—	Name	
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※Your personal information will be handled appropriately according to the "Handling of Personal Information" agreement that was approved at the time of registration.



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日本数学検定協会
The Mathematics Certification Institute of Japan

1

Calculate.

(Calculation skill)

(1) $395 + 218$

(2) $8734 - 6591$

(3) 34×5

(4) 168×39

(5) $42 \div 6$

(6) $69 \div 3$

(7) $912 \div 48$

(8) $5 \times 4 - 6 \div 2$

(9) $1.48 + 0.73$

(10) $8.17 - 6.9$

(11) $\frac{7}{9} + \frac{4}{9}$

(12) $1\frac{1}{7} - \frac{5}{7}$

2

Fill in the blanks with numbers.

(13) The sum of seven 10000 and two 1000 is .

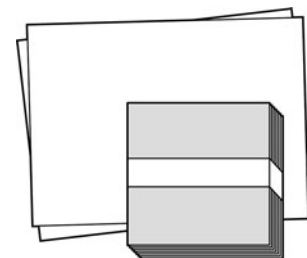
(14) 1 minute 15 seconds = seconds

(15) The sum of two 0.1s and three 0.01s is .

3

Students use white paper and colored paper in a class.

- (16) One pack of white paper contains 45 sheets. When buying 7 packs, how many sheets of white paper are there?



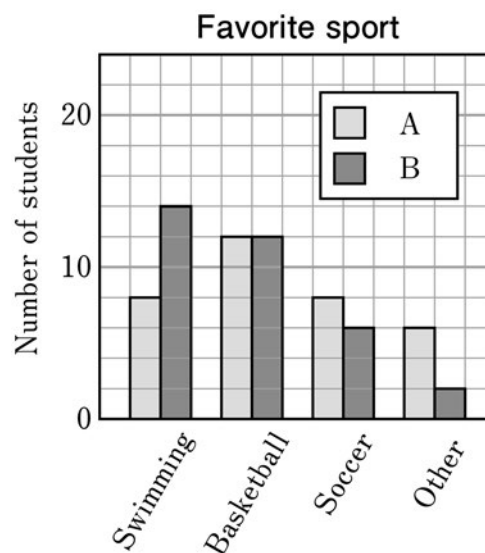
- (17) One pack of colored paper costs 129 yen. When buying 16 packs, how much does it cost?

4

Alice asked all students in class A and class B to choose one sport they like. The bar graph shows the results.

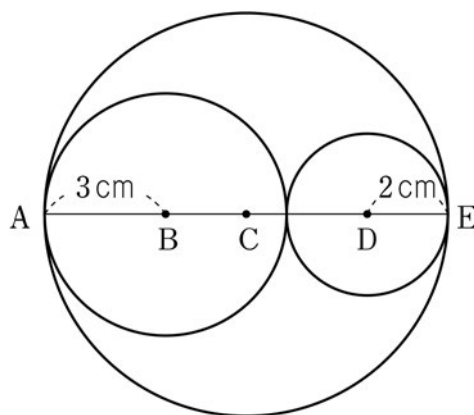
(Statistical skill)

- (18) Which sport was chosen by more students in class B than in class A?
- (19) Which sport has the greatest number of students in total?



5

In the figure, a circle with center at B and radius 3 cm and a circle with center at D and radius 2 cm fit inside a big circle with center at C. Line AE passes through the three centers of the circles. Include units in your answer.



- (20) Find the diameter, in cm, of the circle with center at B.
- (21) Find the diameter, in cm, of the circle with center at C.

6

There is a piece of red string 2.16 m long and a piece of blue string 0.88 m long.

- (22) Find the total length, in m, of the two pieces of strings.
- (23) How many m longer is the red string than the blue string? Write the steps leading to your answer.

7

30 candies are shared between Becky and her brother. The table shows the relationship between the number of candies each person receives.

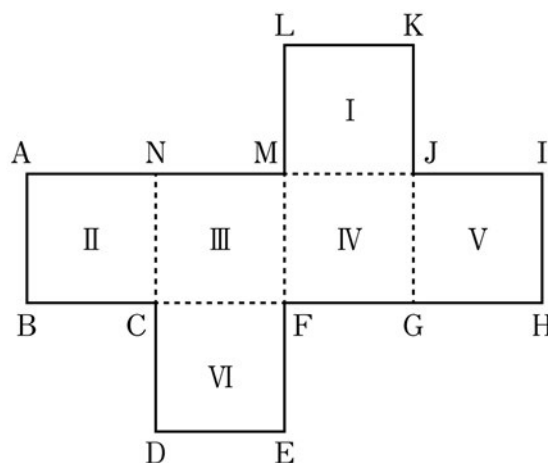
Number of candies Becky receives	0	1	2	3	4	
Number of candies her brother receives	30	29	28	27	A	

- (24) Find the number for A.
- (25) Let \bigcirc be the number of candies Becky receives and let \triangle be the number of candies her brother receives. Express the relationship between \bigcirc and \triangle as an equation. *(Expression skill)*
- (26) When Becky receives 21 candies, how many candies does her brother receive?

8

The figure shows the net of a cube. Answer the following when folding it.

- (27) Which face is parallel to face I ?
- (28) Which side meets side CD?



9

Figure 1 shows a cube on a table made by piling up 27 cubic blocks of the same size. The surface, except for the bottom surface touching the table, is painted as shown in Figure 2. After painting, the blocks are taken apart to pieces.
(Organizing skill)

Figure 1

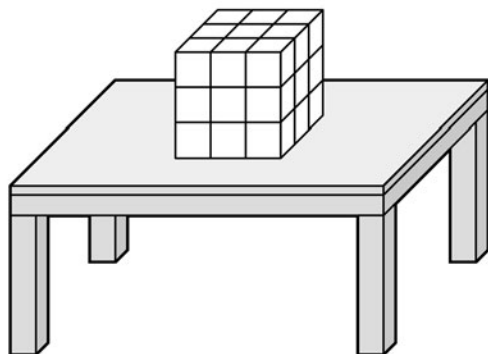
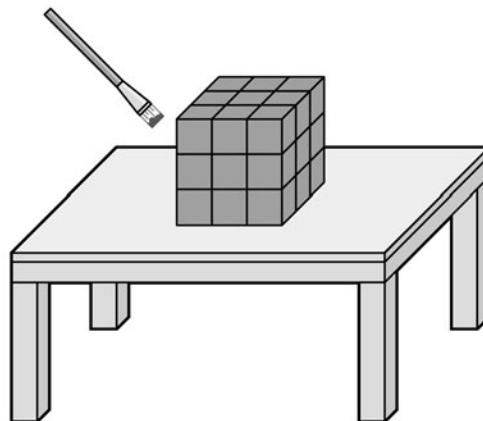


Figure 2



- (29) How many blocks have at least one colored face?
- (30) How many blocks have only one colored face?