

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 name, examinee number and other necessary information on the answer sheet.
4. Write your name and examinee number on this page.
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.

Please submit this test upon agreeing to the following "handling of personal information".

Information regarding the handling of all personal information attached to this form

1. Name of Organization : The Mathematics Certification Institute of Japan
2. Title, Affiliation and Contact Information of Personal Information Protection Administrator :
Title : Personal Information Protection Administrator
Department: Secretariat Contact Information : 03-5812-8340
3. Purpose for Use of Personal Information : Management of examinee information, marking, and for the purpose of identifying candidates
4. Provision of Personal Information to Third Parties : In cases where an application is made through the organization's office, registration information, names, test level and test results for the purpose of informing certification results via the Internet, fax, mail or electronic mail attachment, etc. will be provided to the applicant.
5. Outsourcing of Personal Information Handling : Personal information only for the purposes described in the preceding section, "purpose for using personal information", may be outsourced.
6. Requests for Disclosure of Personal Information : Examinees may submit inquiries to customer information concerning the disclosure of personal information concerning themselves. In this case, the Organization shall confirm the customer's identity and respond within a reasonable period. [Customer Information]
The Mathematics Certification Institute of Japan, Certification Inquiry Desk
Bunshodo Building 6F, 5-1-1 Ueno, Taito Ward, Tokyo, 110-0005
Tel : 03-5660-4804 (Monday to Friday 9:30-17:00 not including national holidays, New Year's holidays and organization holidays)
7. Voluntariness of the Provision of Personal Information : Whether to provide personal information to the Organization is entirely up to the examinee. However, if the Organization does not receive accurate information, it may not be possible to provide certain services in an appropriate manner.

Name

Examinee
Number

—



公益財団法人

日本数学検定協会

The Mathematics Certification Institute of Japan

1

Calculate.

(Calculation skill)

(1) $725 + 146$

(2) $9127 - 4095$

(3) 35×8

(4) 47×19

(5) $72 \div 8$

(6) $96 \div 3$

(7) $312 \div 26$

(8) $18 + 54 \div 6$

(9) $0.83 + 4.29$

(10) $9.48 - 6.7$

(11) $\frac{1}{5} + \frac{3}{5}$

(12) $1\frac{3}{8} - \frac{4}{8}$

2

Fill in the blanks.

(13) 7 minutes and 15 seconds = seconds

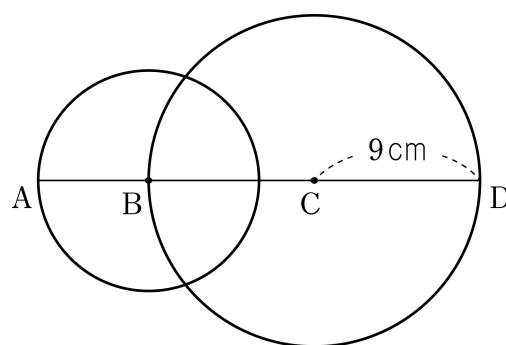
(14) 6 t = kg

(15) $340000 \text{ cm}^2 = \text{ m}^2$

3 Lisa went to a library. She arrived at the library at 1:50 pm and stayed there until 3:35 pm.

- (16) How long, in hours and minutes, did she stay at the library?
- (17) She arrived at a park after a 20-minute walk from the library. She played at the park for 50 minutes and went home. How long, in hours and minutes, did it take from leaving the library to leaving the park?
- (18) When (17), what time did she leave the park?

4 The figure on the right shows two circles. One circle has its center at point B. The other circle has its center at point C and radius 9 cm. Four points A, B, C and D lie on the same line.



- (19) Find the diameter, in cm, of the circle with its center at C.
- (20) If the length of the line AD is 24 cm, find the diameter, in cm, of the circle with its center at B.

5 The length of a piece of red string is $1\frac{2}{7}$ m. The length of a piece of blue string is $\frac{6}{7}$ m.

- (21) Which of the following letters, from A to O, represents the value $1\frac{2}{7}$ on the number line below? Choose one and write the corresponding letter.



- (22) Find the total length, in m, of the red and blue strings. Include units in your answer.
- (23) How much longer, in m, is the red string than the blue string?

6

Kevin asked all students in his class if they have pets at home and made the following table by gender. The numbers show the number of students.

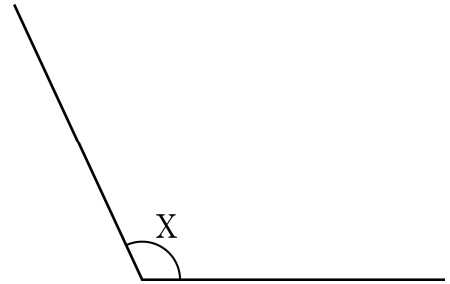
(Statistical skill)

	Do you have pets at home?		Total
	Yes I have	No I don't have	
Boy	6	9	
Girl	7	A	
Total			32

- (24) How many girls have pets?
- (25) How many students don't have pets?
- (26) What does the letter A represent? Choose one and write the corresponding number.
- ① Girls who don't have pets.
 - ② Students who have pets.
 - ③ Boys who have pets.
 - ④ Boys who don't have pets.

7 Answer the following.

- (27) Measure angle X using a protractor. Include units in your answer.
(*Measurement skill*)
- (28) Place the center of a protractor at A on the answer sheet and construct an angle 45° . (*Construction skill*)



8 Look at the following formulae that are formed according to a certain rule.
(*Organizing skill*)

1st formula	$1 = 1 \times 1$
2nd formula	$1 + 3 = 2 \times 2$
3rd formula	$1 + 3 + 5 = 3 \times 3$
4th formula	$1 + 3 + 5 + 7 = 4 \times 4$
...	...

- (29) Consider the 5th formula. Similar to the expressions above, find the addition for A and find the multiplication for B below.
5th formula (A) = (B)
- (30) Find the number for C below.
81 appears as the result of the calculation in the (C)th formula.