7th 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. If your answer contains a fraction, write the fraction in simplest form by reducing it to lowest terms.
9. 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) $76 \div 4$

(2) $800 \div 25$

(3) $78 \div (16 - 3)$

(4) $90 + 7 \times 3$

(5) $0.52 + 9.84$

(6) $6.13 - 4.5$

(7) 1.7×0.8

(8) $2.21 \div 0.65$

(9) $\frac{2}{9} + \frac{1}{3}$

(10) $1\frac{1}{4} - \frac{9}{14}$

(11) $\frac{5}{8} \times 2$

(12) $\frac{9}{16} \div 12$

2 Fill in the blanks with numbers.

(13) The sum of four 0.1s and seven 0.01s is $\square$.

(14) The number 186428 becomes $\square$ when it is rounded to the nearest ten thousand.

(15) 6 m^3 = $\square$ cm^3

3 There are 280 candies.

(16) Of the 280 candies, there are five kinds of candies. If there is an equal number of candies for each kind, how many candies of each kind are there?

(17) The 280 candies are distributed to as many children as possible so that each child gets 16 candies. How many children get the candies and how many candies are left over?

4 One pen costs 80 yen. The table below shows the relationship between the number of pens and the cost. You don't need to consider tax.

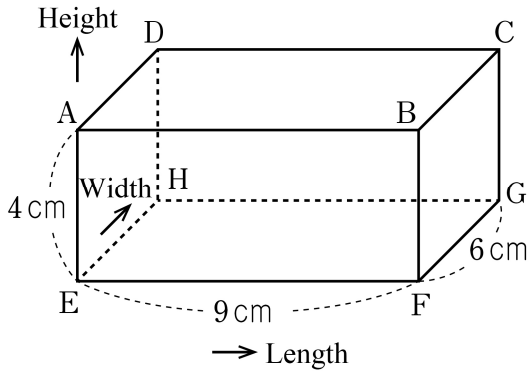
Number of pens	1	2	3	4	
Cost (yen)	80	160	240	320	

(18) Let ○ be the number of pens and let □ be the cost, in yen. Express the relationship between ○ and □ using an equal symbol "=".

(*Expression skill*)

(19) If the cost is 480 yen, find the number of pens.

5 The figure on the right shows a rectangular prism.



(20) How many edges are parallel to edge BC?

(21) Relative to the position of vertex E, the position of vertex C can be expressed as

"Go 9 cm along the length, 6 cm along the width and 4 cm along the height."

Express the position of vertex D relative to the position of vertex E.

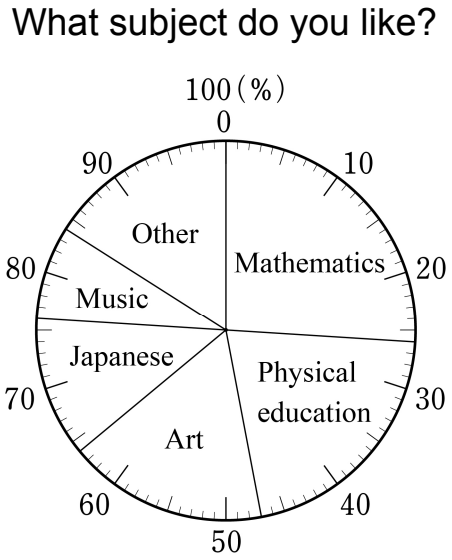
(*Expression skill*)

6 There are 30 cards numbered from 1 to 30 like such: 1, 2, 3, ...

(22) How many cards are a multiple of 4?

(23) After removing the cards that are a multiple of 4 from the 30 cards, how many cards out of the remaining cards are a multiple of 6?

7 Kevin took a survey to find out what subjects the 200 students in his school like. Every student answered one subject. The pie chart on the right shows the result. (*Statistical skill*)



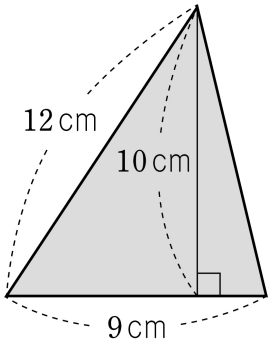
(24) What percent of the students answered mathematics?

(25) How many times more students answered physical education than Japanese? Write the steps leading to your answer.

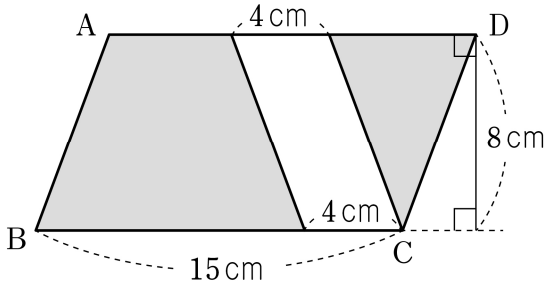
(26) How many students answered music?

8 Find the area, in cm^2, of the shaded part of each of the following figures. Include units in your answer. (*Measurement skill*)

(27)



(28) Quadrilateral ABCD is a parallelogram



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

1st formula	$1=1\times1$
2nd formula	$1+3=2\times2$
3rd formula	$1+3+5=3\times3$
4th formula	$1+3+5+7=4\times4$
...	...

(29) Consider the 6th formula. Similar to the expressions above, find the addition for A and find the multiplication for B below.

6th formula (A) = (B)

(30) Find the number for C below.

100 appears as the result of the calculation in the (C)th formula.