

2013 Grade 6 Mathematics Set A

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URL: <https://www.nier.go.jp/English/index.html>

The English translation is prepared by the Project IMPULS at Tokyo Gakugei University, Tokyo, Japan. (<http://www.impuls-tgu.org/>)

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[1] Calculate the following.

(1) $243 - 65$

(2) $0.75 + 0.9$

(3) 9.3×0.8

(4) $6 \div 5$ (Divide completely. Write your answer as a decimal number.)

(5) $16 - (6 + 3)$

(6) $2\frac{5}{7} + 1\frac{1}{7}$

(7) $\frac{2}{9} \times 4$

[2] Which of the numbers below will be 20000 when rounded to the nearest ten thousands? Select all such numbers from 1 through 5 below.

1 14500

2 15000

3 19500

4 24999

5 25000

[3] When a certain number was divided by 3, the quotient was 3 and the remainder was 2.

From the expressions 1 through 4 below, select the expression that is used to determine the number.

1 $9 \div 3 + 2$

2 $9 \div 3 - 2$

3 $3 \times 9 + 2$

4 $3 \times 9 - 2$

[4] There are 2 picnic sheets, A and B.



The table below shows the number of people sitting on each picnic sheet and the area of the sheets.

Number of people and the area of the picnic sheet

	People	Area (m ²)
A	12	6
B	8	5

To determine which sheet is more crowded, the following calculations were completed.

$$\begin{array}{l} \text{A} \quad 12 \div 6 = 2 \\ \text{B} \quad 8 \div 5 = 1.6 \end{array}$$

What can we say from the above calculations? Select the best answer from 1 through 4 below.

- 1 Since the number of people for 1 m² are 2 people and 1.6 people respectively, Sheet A is more crowded.
- 2 Since the number of people for 1 m² are 2 people and 1.6 people respectively, Sheet B is more crowded.
- 3 Since the area of sheet for each person is 2 m² and 1.6 m² respectively, Sheet A is more crowded.
- 4 Since the area of sheet for each person is 2 m² and 1.6 m² respectively, Sheet B is more crowded.

[5] Answer the following questions.

(1) To measure the length around a trunk of a tree, what should we use? Select the best answer from 1 through 4 below.

1 Ruler

2 Compass

3 Set square

4 Measuring tape

(2) What is the length of a side of a square whose area is 1 a (1 are)? Select the correct answer from 1 through 4 below.

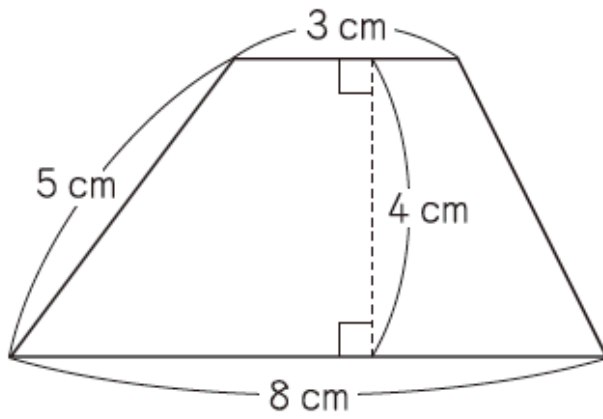
1 10 cm

2 1 m

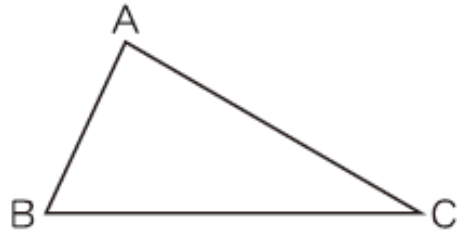
3 10 m

4 100 m

- (3) What is the area of the trapezoid below? Write both the calculation (equation, or set of equations) and the answer (the area).

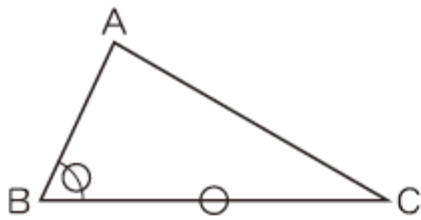


- [6] We are going to think about which lengths and angle measurements we need to measure to draw a triangle that is congruent to triangle ABC.

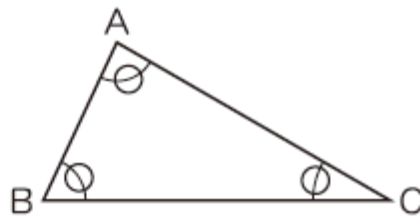


Figures 1 through 4 below show what measurements were taken (indicated by \circ). Select the one that shows the measurements we need to draw a triangle that is congruent to triangle ABC.

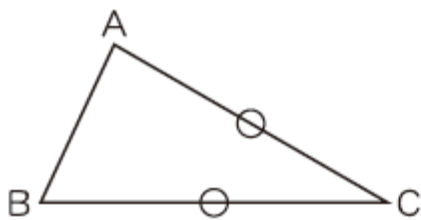
1



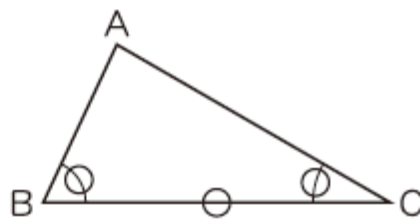
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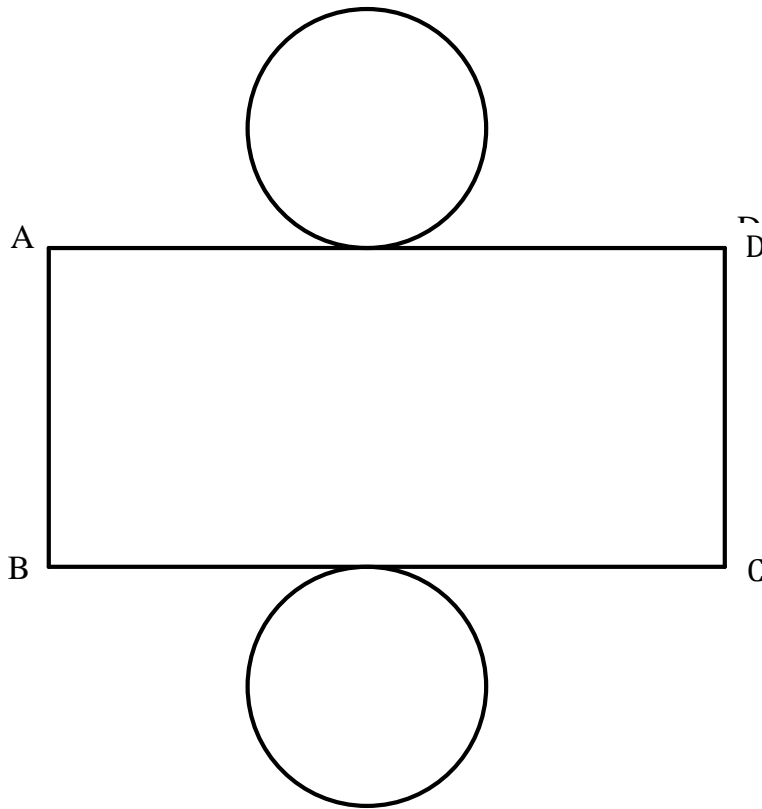
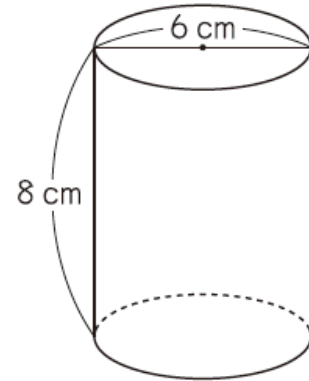
3



4



- [7] There is a cylinder like the one shown on the right. A net of this cylinder was drawn so that its lateral side will be a rectangle. Answer the following questions. Use 3.14 as the value of π .



- (1) What is the length of side AB?

- (2) What is the length AD? Write both the calculation (equation) and the answer (the length).

[8] Answer the following questions.

(1) The length that is 50 % of 200 cm is [] cm.

Select the appropriate number for the [] above from 1 through 4 below.

1 100

2 150

3 250

4 400

(2) The weight that is 120% of 500 g is [].

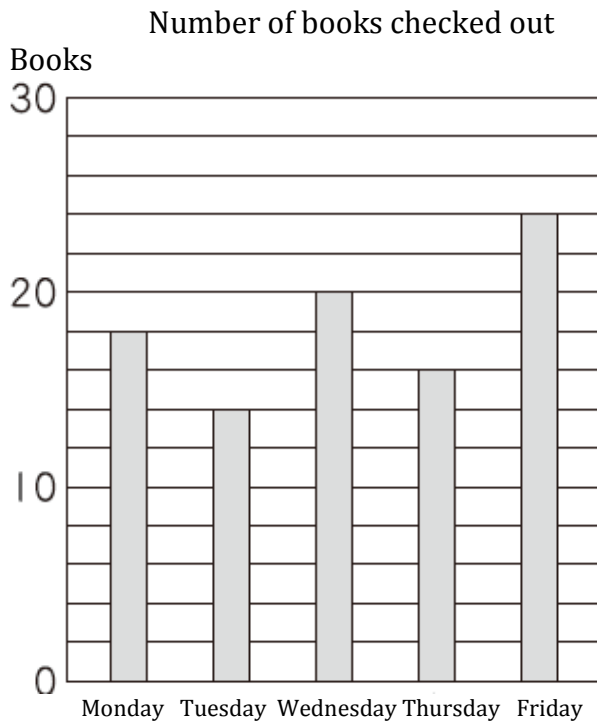
Select the appropriate phrase for [] above from 1 through 3 below.

1 lighter than 500 g

2 heavier than 500 g

3 equal to 500 g

[9] The bar graph below shows the number of library books students in a certain class checked out.



On which day of the week were the most books checked out? How many books were checked out on that day?