

2012 Grade 6 Mathematics Set A

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

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[1] Calculate the following.

(1) $132 + 459$

(2) $148 \div 37$

(3) $4.6 - 0.21$

(4) 90×0.7

(5) $6 \times 2 + 8 \times 3$

(6) $\frac{3}{7} - \frac{2}{5}$

(7) $\frac{4}{5} \div 8$

[2] Fill in each [] with the appropriate number.

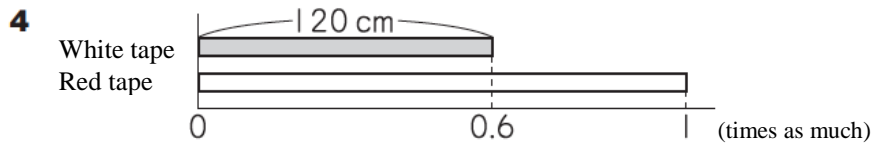
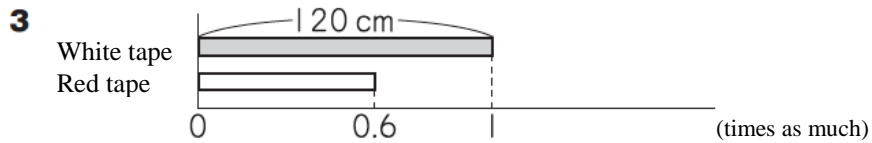
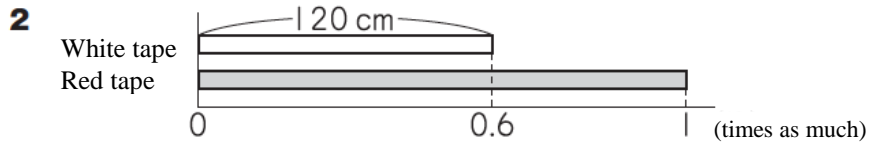
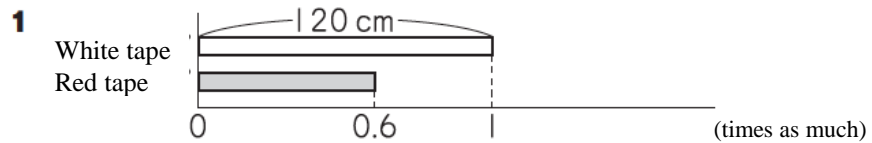
(1) 47000 is a number that is a collection of [] 1000's.

(2) If we write the number that is $\frac{1}{100}$ of 596 as a decimal number, it is [].

[3] We know the following about the length of the red and white tapes.

The length of the red tape is 120 cm.
The red tape is 0.6 times as long as the white tape.

(1) Which of the following diagrams represent the relationship between the red and the white tapes correctly? Select from **1** through **4** below.



(2) Write the calculation to determine the length of the white tape.
You do not have to write the answer for the calculation.

[4] The table below summarizes the number of tomatoes that were harvested in a garden on Monday through Friday.

In these 5 days, how many tomatoes were harvested in a day on average? Write your answer.

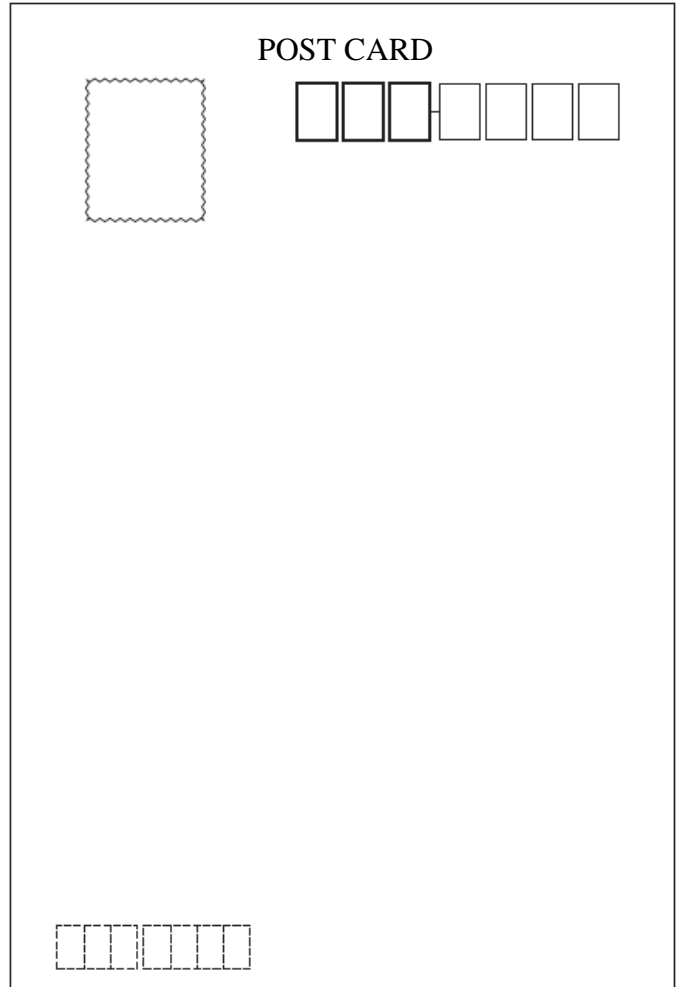
Number of tomatoes harvested

Day	Mon.	Tue.	Wed.	Thur.	Fri.
Number of Tomatoes	6	3	2	0	9

[5] Answer the following questions.

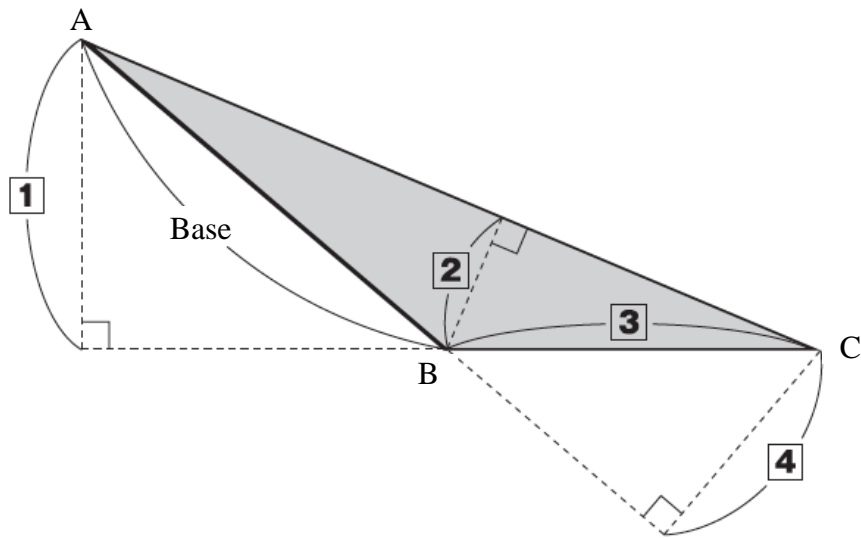
(1) About how many cm^2 is the area of the postcard shown below? Select from **1** through **4** below, and write that number.

- 1 About 50 cm^2
- 2 About 150 cm^2
- 3 About 450 cm^2
- 4 About 1350 cm^2



(2) We are going to think about ways to determine the area of triangle ABC shown below.

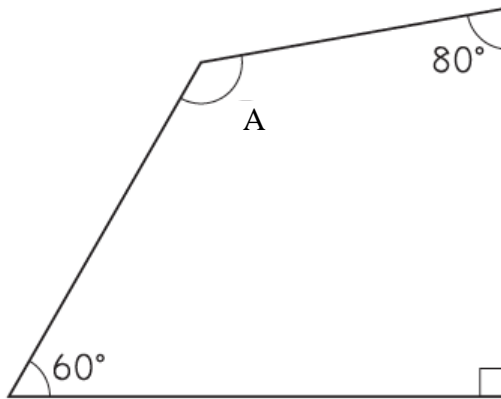
If we consider side AB as the base, where will be the height?
Select from [1] through [4] below, and write that number.



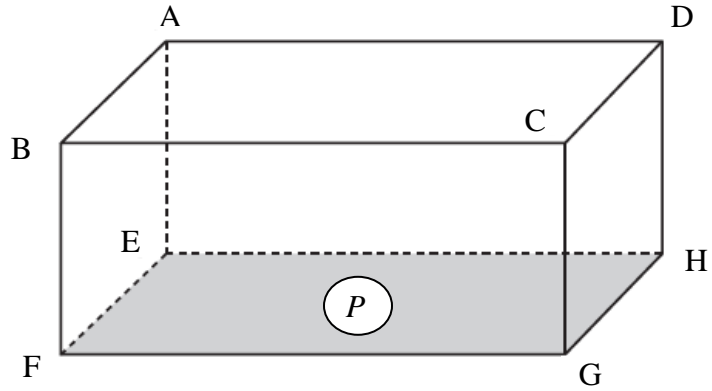
[6]

Answer the following questions.

- (1) How many degrees is the measure of the angle A shown below? Write your answer.

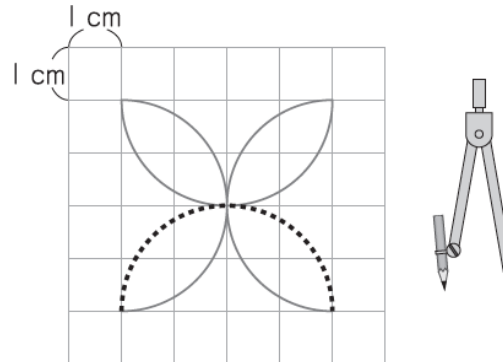



- (2) In the rectangular prism shown below, there are some edges that are perpendicular to face P. Select one edge that is perpendicular to face P and write its name.



[7]

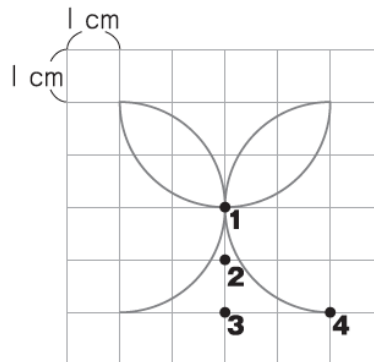
We are drawing a design on a centimeter grid paper using a compass.



In order to draw  shown above, where do we need to place the needle of the compass?

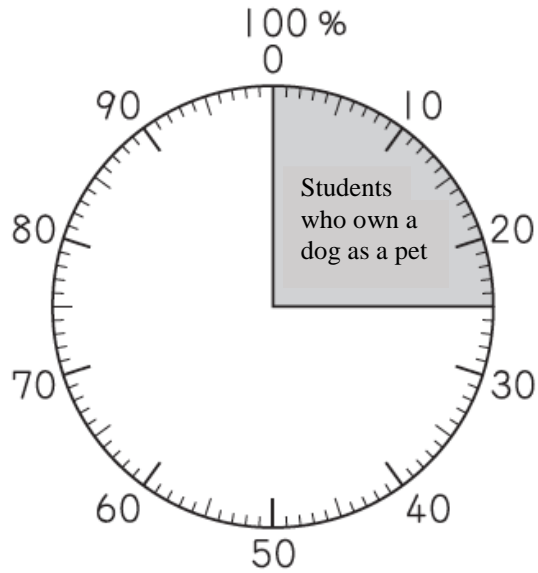
Select the location where you have to place the needle of the compass (•) from **1** through **4** in the figure below, and write that number.

Also, in order to draw the dashed curve, how many cm should the compass opening be? Write your answer.



- [8] The circle graph below shows the percentage of students in a class who own a dog as a pet.

Percentage of students who own a dog as a pet

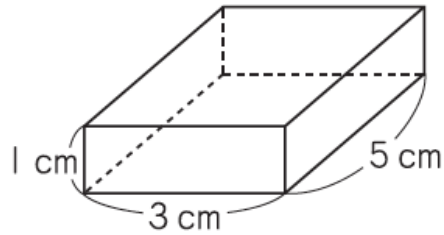


There are 8 students who own a dog as a pet.

These 8 students represent 25 % of this class.

How many students are in this class? Write both the equation to calculate the number of students in the class and the answer.

[9] There is a rectangular prism as shown below.



We investigated how the volume of this rectangular prism would change as the height was changed to 1 cm, 2 cm, 3 cm, ... while keeping the length, 5cm, and the width, 3cm, the same. The results are summarized in the table below.

Height and Volume of Rectangular Prism

Height (cm)	1	2	3	4	5	
Volume (cm ³)	15	30	45	60	75	

When the height becomes 2 times, 3 times, ... as much, how does the volume change? Select from **1** through **4** below.

- 1** The volume will become 2 times, 3 times, ... as much.
- 2** The volume will become 15 times, 30 times, ... as much.
- 3** The volume will become 15 times as much.
- 4** The volume will not change.