

Power up !

## Diagnostic Review 1

1 Calculate the following problems.

- ①  $326 + 674$       ②  $613 - 36$       ③  $53 \times 46$       ④  $204 \div 6$   
 ⑤  $34 + 9 \times 5$       ⑥  $96 - 81 \div 9$       ⑦  $46 - (30 - 19)$       ⑧  $17 + (45 - 6 \times 7)$   
 ⑨  $4.8 + 2.3$       ⑩  $50.8 + 7.34$       ⑪  $7.6 - 5.3$       ⑫  $9.152 - 8.72$

①		②		③		④	
⑤		⑥		⑦		⑧	
⑨		⑩		⑪		⑫	

2 Write the correct numbers in the .

- ①  $0.8 + 7.6 = \square + 0.8$       ②  $\frac{1}{2} \times \frac{3}{5} = \frac{3}{5} \times \square$   
 ③  $(198 + 84) + 16 = 198 + (\square + 16)$       ④  $(3.2 \times 0.25) \times 4 = 3.2 \times (\square \times 0.25)$   
 ⑤  $9 \div 8 + 4.2 \div 8 = (9 + \square) \div 8$       ⑥  $10 \times \left(1.2 - \frac{9}{10}\right) = 10 \times 1.2 - 10 \times \square$   
 ⑦  $\left(\frac{1}{2} + \frac{1}{4}\right) \times 8 = \frac{1}{2} \times 8 + \square \times 8$       ⑧  $5 \times \frac{8}{9} - 4 \times \frac{8}{9} = (5 - 4) \times \square$

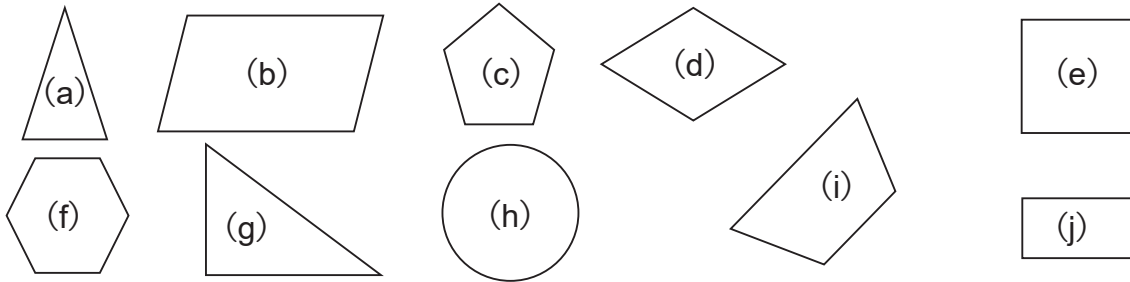
①		②		③		④	
⑤		⑥		⑦		⑧	

3 Answer the following questions.

- ① What is 2 hundred millions, 8 one millions, and 5 ten thousands?  
 ② How many 1000s are there in 357000?  
 ③ What is 7 0.1's and 8 0.01's?  
 ④ How many 0.01 are there in 2.64?  
 ⑤ What is  $\frac{2}{3}$  times 3?

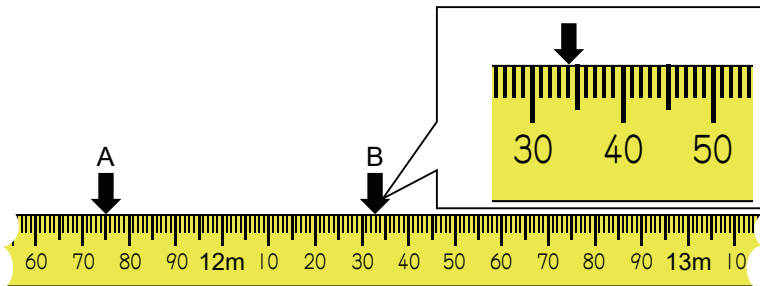
①		②		③		④		⑤	
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4 Look at the following figures and fill in the table below.



Name	Right triangle	Isosceles triangle	Pentagon	Hexagon	Circle
Answer					
Name	Trapezoid	Rectangle	Square	Parallelogram	Rhombus
Answer					

5 Read the lengths of the ↓ on the tape measures below.



A is  m  cm.  
 B is  m  cm.

6 Match the same capacities with a line.

1 • •  500 mL

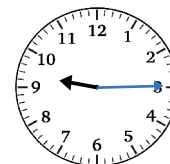
2 • •  1 L 20 mL

3 • •  120 mL

7 The time is 9:15 now. Write the time points that shows the following times.

1 30 minutes after  
It is

2 3 hours before  
It is



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## Diagnostic Review 2

1 Calculate the following problems.

- 1  $3208 + 4895$     2  $8100 - 354$     3  $326 \times 418$     4  $360 \div 45$   
5  $47 + 7 \times 9$     6  $84 - 36 \div 12$     7  $52 - (16 - 5 \times 2)$     8  $12 + (45 - 15 \div 5)$   
9  $16.6 + 3.4$     10  $8.6 + 2.53$     11  $3 - 0.2$     12  $2.5 - 1.86$

1		2		3		4	
5		6		7		8	
9		10		11		12	

2 Rewrite the following math sentences using the properties of operations and solve.

- 1  $6.3 + 1.75 + 3.7$   
2  $0.25 \times 9 \times 4$   
3  $2.4 \times 9.3 - 7.3 \times 2.4$   
4  $\left(\frac{6}{5} - \frac{3}{4}\right) \times 400$   
5  $1.02 \times 23$

3 Answer the following questions.

1 Which numbers are even numbers?

- (a) 26, (b) 43, (c) 187, (d) 6590, (e) 192837

2 Write the least common multiple of the numbers in the ( ).

- (a) (2, 8) (b) (3, 5) (c) (8, 6) (d) (5, 6, 10)

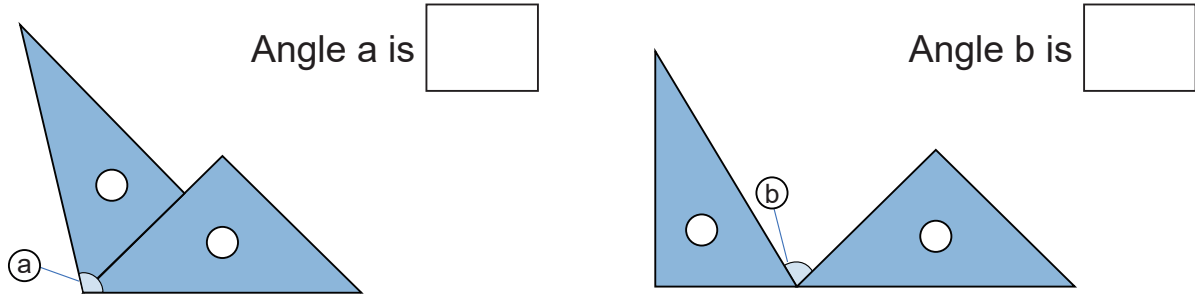
(a)		(b)		(c)		(d)	
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3 Write the greatest common factor of the numbers in the ( ).

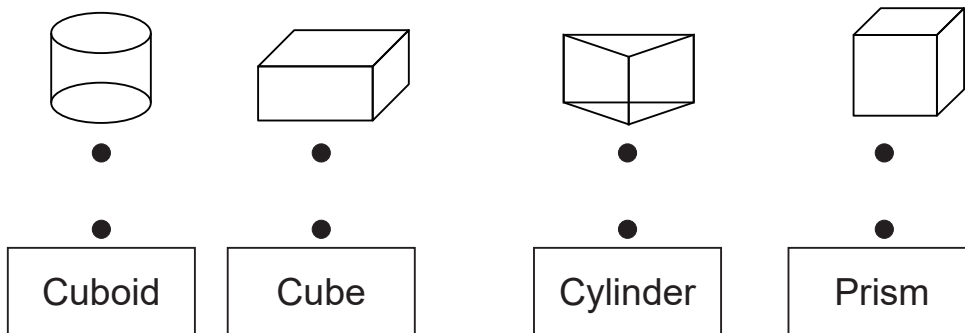
- (a) (14, 21) (b) (16, 32) (c) (18, 24) (d) (12, 16, 18)

(a)		(b)		(c)		(d)	
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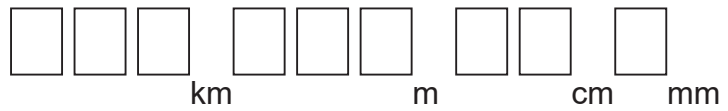
- 4 Two different set squares are used to make the following angles. Find the size of each marked angle.



- 5 Match solid figures and their name.



- 6 Convert the lengths to specified units.



- 1 3 km =  m
- 2 1500 m =  km  m
- 3 1 m 75 cm =  cm
- 4 125 mm =  cm  mm

- 7 Fill in the  with the appropriate numbers.

- 1 Units of Weight

1 t =  kg

1 kg =  g

1 g =  mg

- 2 Units of Capacity

1 L =  dL =  mL

1 dL =  mL

- 3 Units of Time

1 day =  hours, 1 hour =  minutes, 1 minute =  seconds

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## Diagnostic Review 3

1 Calculate the following problems.

- ①  $2.6 \times 8$       ②  $1.7 \times 3.6$       ③  $7.04 \times 5.2$       ④  $24.5 \times 0.34$   
 ⑤  $8.4 \div 7$       ⑥  $9.1 \div 2.6$       ⑦  $46.4 \div 14.5$       ⑧  $2.1 \div 0.42$   
 ⑨  $(3.5 + 6.5) \times 0.1$     ⑩  $1.05 \times 100 \div 5$     ⑪  $(4.5 - 2) \div 0.125$     ⑫  $20 + 10 \times 3.14$

①		②		③		④	
⑤		⑥		⑦		⑧	
⑨		⑩		⑪		⑫	

2 Write the correct numbers in the .

①  $1 = \frac{1}{\boxed{(a)}} = \frac{\boxed{(b)}}{2}$       ②  $3 = \frac{\boxed{(c)}}{1} = \frac{6}{\boxed{(d)}}$       ③  $0.3 = \frac{3}{\boxed{(e)}}$       ④  $1.57 = \frac{157}{\boxed{(f)}}$       ⑤  $1 \div 4 = \frac{\boxed{(h)}}{\boxed{(g)}}$

(a)		(b)		(c)		(d)		(e)		(f)		(g)		(h)	
-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--	-----	--

3 Change the following fractions to decimal numbers.

①  $\frac{1}{8}$        ②  $\frac{9}{5}$        ③  $\frac{3}{4}$        ④  $\frac{19}{20}$

4 Change the following decimal numbers to fractions. Simplify answers.

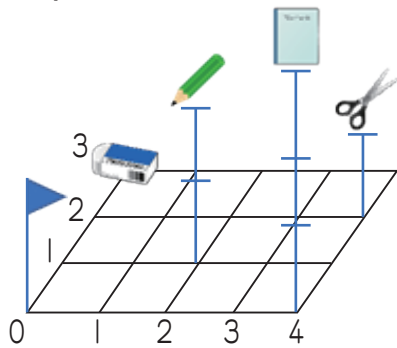
①  $0.7$        ②  $0.45$        ③  $1.5$        ④  $2.05$

5 Arrange the following numbers in ascending order.

①  $\frac{1}{6}, \frac{2}{3}, \frac{5}{3}, \frac{5}{6}, \frac{8}{5}, 0, 1$        <  <  <  <  <  <

②  $\frac{7}{3}, \frac{1}{2}, \frac{2}{5}, 0.3, 0.75, 1.2, 2$        <  <  <  <  <  <

6 Every position in the space is represented by a list of three numbers. The position of the pen is 2 width, 1 length, and 2 height. We express the position as  $(2, 1, 2)$ .



1 Represent the position of following items.

Sissors

Notebook



2 What item is in position  $(0, 3, 0)$ ?

7 Fill in the  with appropriate units of quantities.

1 Length of a classroom.

8

3 Amount of canned juice.

350

4 Thickness of a notebook.

4

5 Weight of a tennis ball.

58

8 There are 72 passengers on a bus with a capacity of 60 per vehicle.

1 What percentage of the capacity is occupied by passengers?

60 people	72 people
	<input type="text"/>

Math sentence

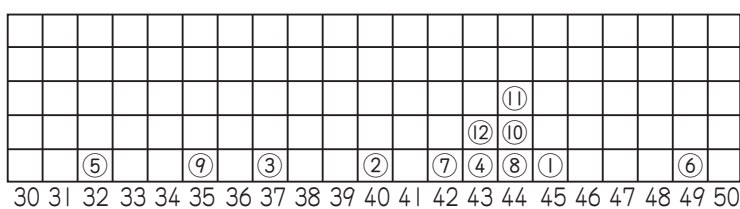
Answer \_\_\_\_\_

2 What is the smallest ratio between the number of passengers and the capacity of the vehicle?

Math sentence

Answer \_\_\_\_\_

9 The table below shows the records of math test are summarized in the dot plot below. Answer the following questions.



1 Find the mean value

2 Find the median value

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## Diagnostic Review 4

**1** Calculate the quotient to the ones place and find the remainder.

- 1**  $29.8 \div 3$       **2**  $56.3 \div 14$       **3**  $70.5 \div 13.6$       **4**  $1.83 \div 0.52$

<b>1</b>		<b>2</b>		<b>3</b>		<b>4</b>	
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**2** Calculate the following problems.

- 1**  $\frac{3}{7} + \frac{6}{7}$       **2**  $\frac{4}{5} + \frac{1}{3}$       **3**  $1\frac{1}{6} + 2\frac{3}{4}$       **4**  $\frac{9}{8} - \frac{3}{8}$   
**5**  $\frac{4}{7} - \frac{1}{5}$       **6**  $3\frac{5}{6} - 2\frac{4}{9}$       **7**  $\frac{2}{3} \times \frac{1}{4}$       **8**  $\frac{3}{5} \times \frac{10}{9}$   
**9**  $\frac{7}{13} \times 1\frac{6}{7}$       **10**  $\frac{3}{4} \div \frac{1}{3}$       **11**  $\frac{6}{7} \div 3$       **12**  $1\frac{5}{8} \div 2\frac{1}{4}$

<b>1</b>		<b>2</b>		<b>3</b>		<b>4</b>	
<b>5</b>		<b>6</b>		<b>7</b>		<b>8</b>	
<b>9</b>		<b>10</b>		<b>11</b>		<b>12</b>	

**3** Round the following numbers to the nearest thousand.

- 1** 4351      **2** 97820      **3** 40259      **4** 852541      **5** 129834

<b>1</b>		<b>2</b>		<b>3</b>		<b>4</b>		<b>5</b>	
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**4** What are the largest and smallest numbers that can be made when rounded to the nearest ten thousand.

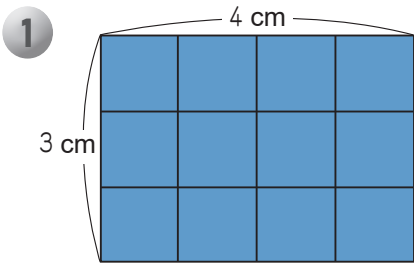
- 1** 630000      Largest  Smallest       **2** 9870000      Largest  Smallest

**5** 2.4 L of tea will be shared equally among  $x$  people. How many L of tea can each person get? Write a math sentence and calculate when  $x = 6$ .

Answer \_\_\_\_\_

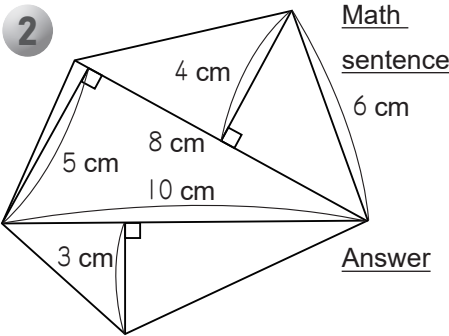
When  $x = 6$ , the amount of juice is \_\_\_\_\_

6 Find the area and volume of the following figures.



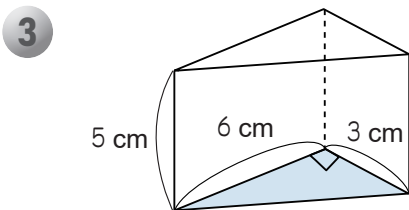
Math sentence \_\_\_\_\_

Answer \_\_\_\_\_



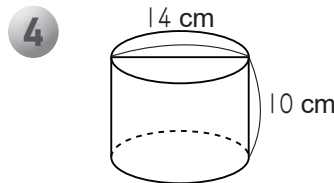
Math sentence \_\_\_\_\_

Answer \_\_\_\_\_



Math sentence \_\_\_\_\_

Answer \_\_\_\_\_



Math sentence \_\_\_\_\_

Answer \_\_\_\_\_

7 From the following (a) ~ (c), choose the one in which  $y$  is proportional to  $x$  and the one in which  $y$  is inversely proportional to  $x$ .

- (a) A square with a perimeter of 40 cm, length  $x$  cm and width  $y$  cm.
- (b) A rectangle with a length of 4 cm and a width of  $x$  cm and an area of  $y$  cm<sup>2</sup>.
- (c) An area of 36 cm<sup>2</sup> with a length of  $x$  cm and a rectangle of length  $y$  cm.

$y$  is proportional to  $x$  is \_\_\_\_\_

$y$  is inversely proportional to  $x$  is \_\_\_\_\_

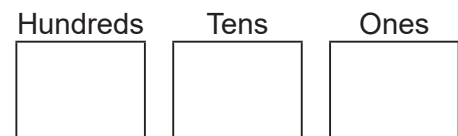
In (c), if the length is 4, what is the width of a rectangle?

Math sentence \_\_\_\_\_

Answer \_\_\_\_\_

8 There is one card for each of the following numbers: 1, 3, 8, 0.

From these 4 cards, use 3 cards to create 3-digit whole numbers. How many whole numbers can you make in total?



How many 3-digit whole numbers can you make in total?



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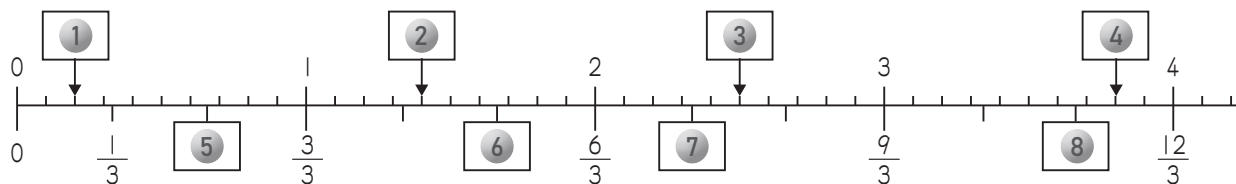
## Diagnostic Review 5

1 Calculate the following problems by converting whole numbers and decimal numbers to fractions.

- ①  $0.6 \times \frac{2}{3}$       ②  $7 \div \frac{7}{8}$       ③  $\frac{3}{4} \div 3$       ④  $0.3 \times \frac{5}{6} + \frac{3}{4}$   
 ⑤  $2.4 \div \frac{4}{5} + 1$       ⑥  $4.5 - \frac{4}{3} \times 2$       ⑦  $\frac{7}{8} - 0.7 \div \frac{14}{5}$       ⑧  $\frac{7}{3} \div 28 \times 0.8$   
 ⑨  $\frac{7}{12} \div 4.2 \times 0.6$       ⑩  $7 \times \frac{3}{4} \div 1.4$       ⑪  $0.8 \div 0.75 \times \frac{5}{8}$       ⑫  $\frac{4}{5} \div \frac{2}{3} \div 6$

①		②		③		④	
⑤		⑥		⑦		⑧	
⑨		⑩		⑪		⑫	

2 Write the correct decimal numbers from ① to ④ and fractions from ⑤ to ⑧.



①		②		③		④	
⑤		⑥		⑦		⑧	

3 12.5 kg of rice is divided into bags of 1.8 kg each. How many bags can be made and how many kg of rice is left over?

Math sentence

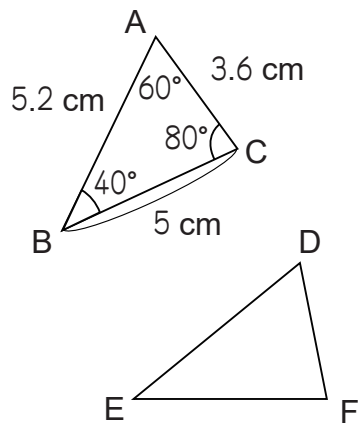
Answer

4  $1 \frac{1}{3}$  kg of sugar is needed to make a  $2 \frac{2}{5}$  kg cake. How much sugar is needed to bake a 1 kg cake?

Math sentence

Answer

**5** The following triangles are congruent. Answer the following questions.



**1** Which is the corresponding vertex to vertex C?

Vertex

**2** Which is the corresponding angle to angle E? Also, how many degrees is the size?

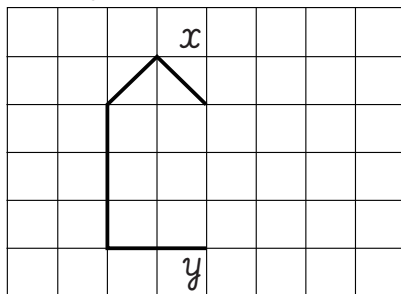
Angle  Size

**3** Which is the corresponding side to side DF? Also, how many cm is it?

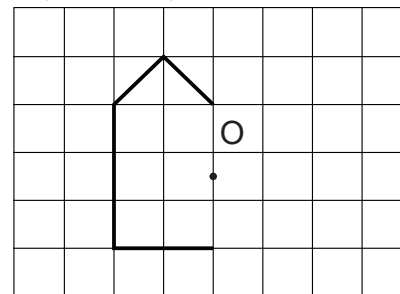
Side  Length

**6** Draw the following figures.

**1** A line symmetric figure that has the straight line  $xy$  as the line of symmetry.



**2** A point symmetric figure that has the point O as the point of symmetry.



**7** There are 42 students in your class and the ratio of boys to girls is 3 : 4. How many boys and girls are there in the class?

**1** Find the ratio of total number.

Math sentence \_\_\_\_\_ Answer \_\_\_\_\_

**2** How many boys are there in the class ?

Math sentence \_\_\_\_\_ Answer \_\_\_\_\_

**3** How many girls are there in the class?

Math sentence \_\_\_\_\_ Answer \_\_\_\_\_

**8** Choose appropriate kinds of graph with the following situation.

Data	What you present	Kinds of graph
Daily temperature in a city	Changes in every hours	
Planted area in crops	Ratio to the whole	
Number of books borrowed by classmate	Frequency of use of the library.	

Kinds of graphs

A: Bar graph, B: Line graph, C: Pie chart or strip chart, D Histogram