3 Calculate:

(1) $(-18) + 7 - 21 =$ _____

(2) $\frac{2}{7} - 10 - 5\frac{2}{7} + (-13) =$ _____

(3) $780 \div (-100) =$ ＿＿＿

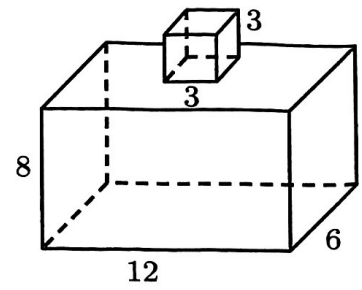
3 Calculate and write the answer in the form of an integer or a fraction.

(2) $-10^4 =$ _____

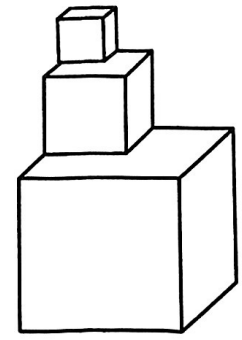
4 Calculate and write the answer in the form of a fraction.

(1) $-\frac{3^3}{4} =$ _____

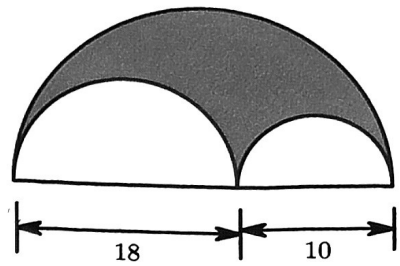
3 The surface area of the solid figure below is _____ .



4 As shown below, three cubic wooden blocks with edge lengths of 1 m, 2 m, and 4 m, respectively, are stuck together to form an architectural model. Then, the model is colored red. _____ m^2 of red paint is needed.



2 Three semicircles overlap as shown below. The area of the shaded region is _____ . ($\pi \approx 3$)



2 Judy is packing gifts for all her friends. If she works at normal speed, she can finish the work in 20 hours. If she rushes, she can pack 6 more gifts per hour, and can finish the work 8 hours earlier. She needs to pack _____ gifts in total.

3 Gabriella and Jessica can complete a job together in 4 days. Gabriella can complete it alone in 9 days. Jessica can complete it alone in _____ days.

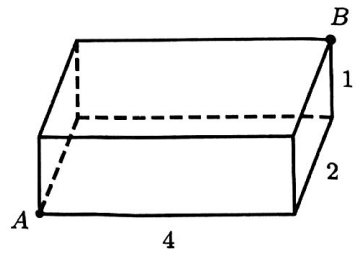
A. $4\frac{1}{5}$ B. 5 C. $6\frac{2}{3}$ D. $7\frac{1}{5}$

4 A natural number greater than 10 leaves a remainder of 2 when divided by 3, 5, and 7.

(1) The smallest three-digit number that meets the conditions is _____ .

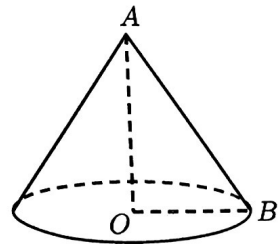
(2) The largest three-digit number that meets the conditions is _____ .

2 As shown below, this box is 4 cm long, 2 cm wide, and 1 cm high. An ant crawls on the surface of the box from vertex A to vertex B. The length of the shortest route is _____ cm.



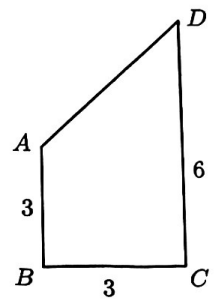
A. 5 B. $\sqrt{29}$ C. 7 D. $\sqrt{37}$

1 As shown in the figure, it is known that $AB = 6$ cm and $OB = 3$ cm. Find the surface area of this cone.



A. 21π cm^2 B. 27π cm^2 C. 36π cm^2 D. 45π cm^2

2 As shown below, a right trapezoid has two right angles ($\angle B$ and $\angle C$). Given that $AB = BC = 3$, $CD = 6$. A solid figure is produced by rotating the trapezoid about $\overleftrightarrow{CD}$.



(1) What is the volume of this solid figure? (Leave your answer with π in it.)

A. 27π B. 36π C. 48π D. 54π

(2) $0.3 \div \frac{1}{3} - 70\% =$ _____

(2) $\left(1 - 75\% \times \frac{1}{6}\right) \div 125\% =$ _____

3 Calculate:

(1) $\left(60\% + \frac{1}{5}\right) \div 1.2 =$ _____

Part 3

Example!

Order these numbers from least to greatest.

$\frac{11}{13}, \frac{13}{15}, \frac{15}{17}$

$$\frac{11}{13} < \frac{11+2}{13+2} = \frac{13}{15} < \frac{13+2}{15+2} = \frac{15}{17}$$

So, $\frac{11}{13} < \frac{13}{15} < \frac{15}{17}$

1 Which one is smaller, $\frac{2003}{2005}$ or $\frac{2013}{2015}$?

A. $\frac{2003}{2005}$

B. $\frac{2013}{2015}$

2 Order these numbers from least to greatest.

$\frac{43}{123}, \frac{220}{321}, \frac{263}{444}$

A. $\frac{220}{321} < \frac{43}{123} < \frac{263}{444}$

B. $\frac{43}{123} < \frac{263}{444} < \frac{220}{321}$

C. $\frac{43}{123} < \frac{220}{321} < \frac{263}{444}$

D. $\frac{263}{444} < \frac{43}{123} < \frac{220}{321}$

1. Compare the following pair of fractions using an inequality sign:

$$\frac{147}{150} \text{ ——— } \frac{203}{200}$$

2. Compare the following pair of fractions using an inequality sign.

$$\frac{63}{125} \text{ ——— } \frac{23}{50}$$

3. Compare the following pair of fractions using an inequality sign.

$$\frac{7}{22} \text{ ——— } \frac{9}{28}$$

3 Which of the followings is equal to $5(3\overline{abc} - 20)$?

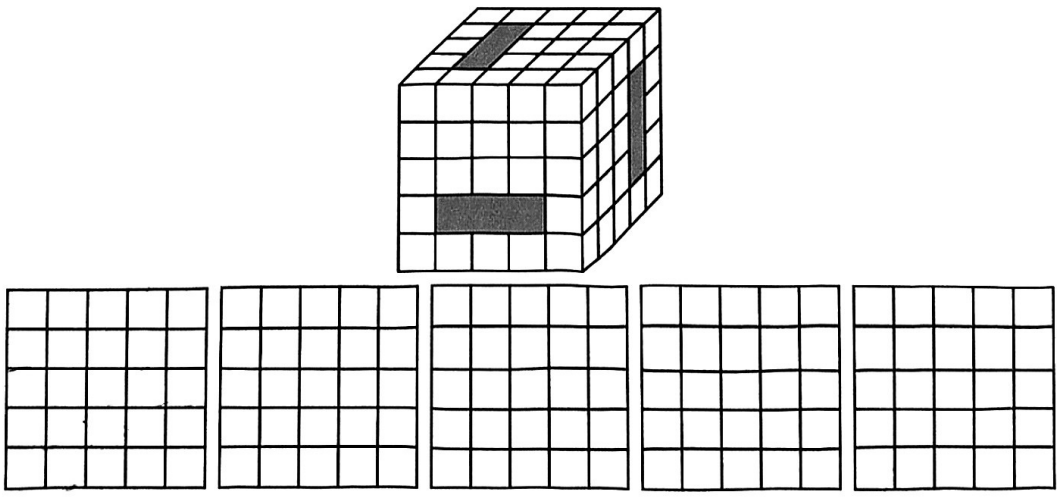
A. $15\overline{abc} - 20$ B. $1500a + 15\overline{bc} - 100$ C. $\overline{15abc} - 100$

7 Gary, Kevin, and Ryan got paid a total of 500 dollars for painting the neighborhood walls. They received their shares of the money in the ratio of 13 : 20 : 17. Gary got _____ dollars less than Ryan did.

7 Fill in the blanks.

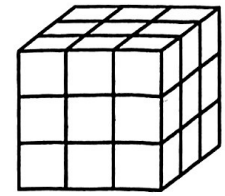
(1) $3^2 \times 3^3 =$ _____ ( ) = _____

4 A cube of $5 \times 5 \times 5$ is shown in the figure below. The rows and columns of smaller cubes which are indicated with shading have been removed. Calculate the surface area of this large cube.



A. 206 B. 205 C. 210 D. 216

3 A $3 \times 3 \times 3$ black cube is colored white on its surface and then cut into 27 small cubes of the same size. Which of the following is correct?



A. Each small cube has at least 1 face painted white.
B. Some small cubes have 4 faces painted white.
C. There are 12 small cubes with 2 faces painted white.
D. Each small cube has at most 2 faces painted white.

6 On a drawing with a scale of $1 : 500000$, the distance between places A and B is 14 cm, the actual distance between these two places is _____ km.