



## Mathematics

Standard : 7

Time : 2 Hrs 15 minutes

## Instructions

- First 15 minutes is allotted as cool-off time. Read the questions carefully and plan the answers during this time.
- Answer all six questions. Answer all the sub questions.
- Questions 1 and 6 have two parts (A & B). Attempt **any one** of them. (1A or 1B and 6A or 6B).

Question 1 has two parts (1A and 1B). Answer any one.

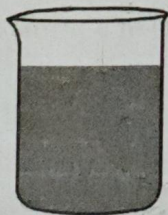
1.A.

A rectangle was made using a string of 60 cm long. The ratio of its width and height is 3:2.

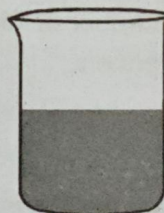
- What is the width and height in centimetres?
- What part of the width is its height?
- If the ratio of the width and height of the rectangle having the same perimeter is 2:1, what is its height?
- If the width of a rectangle is  $\frac{1}{2}$  metre and height is  $\frac{1}{3}$  metre, which of the following statement is correct about the ratio of its width and height?
  - Ratio of width and height is 3:2.
  - Width and height are in the ratio 2:3.
  - Ratio of width and height is 3:1.
  - Width and height are in the ratio 2:1.

OR

1.B. a.



Jar 1



Jar 2

Jar 1 contains  $\frac{3}{4}$  part of water and Jar 2 contains half part of water in it.  
 What is the ratio of the quantity of water in Jar 1 and Jar 2?

See, some numbers, which are the powers of 2.

2, 4, 8, 16

- b. Write the factors of each number.
  - c. Find the number of factors of each number.
  - d. What is the relation between the number and the sum of factors excluding the number?
5. a. Some algebraic expressions given in column I have equal expressions in column II.

I		II	
1	$(x - y) + z$	i	$x - (y + z)$
2	$(x - y) - z$	ii	$x + (y + z)$
3	$(x + y) - z$	iii	$x - (y - z)$
		iv	$x + (y - z)$

Find the correct match.

- A. 1→ii, 2→iii, 3→i
  - B. 1→iv 2→ii 3→iii
  - C. 1→iii 2→i 3→iv
  - D. 1→i 2→iv 3→ii
- b. Write the statement given below using shorthand.
- "Sum of 10 times a number and 4 times the same number is 14 times the same number."
- c. Do the following calculations mentally. Write the method used for calculation.  
 $(410 - 6.5) - 3.5$
  - d. Write  $(x + y) - x = y$  in ordinary language.
  - e. Is  $10 - (4 - 2)$  and  $(10 - 4) - 2$  the same. Write the steps of calculation.

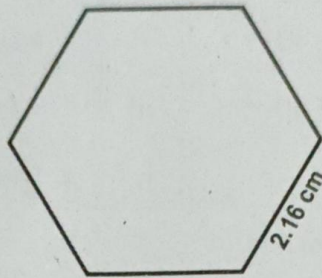
**Question 6 has two parts (6A and 6B). Answer any one.**

- 6.A. a. Leena sold 3.5 litres of milk a day. She got 51.50 rupees for one litre of milk. How much rupees did Leena get from selling the milk that day?

- b. On another day Leena got Rs.256.25 from selling 5 litres of milk. How much rupees did she get for one litre of milk that day?
- c. Which of the following is equal to  $0.45 \times 1.45$ ?
- A.  $\frac{45}{10} \times \frac{145}{100}$
- B.  $\frac{45}{100} \times \frac{145}{10}$
- C.  $\frac{45}{100} \times \frac{145}{100}$
- D.  $\frac{45}{100} \times \frac{145}{1000}$

OR

6.B.



- a. One side of a hexagon is 2.16 centimetres. What is its perimeter?
- b. The length of a rectangle is 6.5 centimetres and breadth 4.5 centimetres. What is its area?
- c. Which of the following is equal to  $2.16 \times 1.6$ ?
- A)  $2.16 \times 16$  B)  $0.216 \times 16$  C)  $2.16 \times 0.16$  D)  $216 \times 0.6$
- d. What is the length of one side of a square with perimeter 16.4 centimetres?