

CHAPTER-1 | A Square and A Cube

QUIZ PART-01

1. What is the main topic of this part of the chapter?

- A. Cube roots
- B. Square numbers
- C. Fractions
- D. Decimals (B)

Explanation: This part mainly explains square numbers and their relation with factors.

2. In the locker puzzle, Person 1 does what?

- A. Closes every locker
- B. Opens every locker
- C. Opens every 2nd locker
- D. Toggles every 3rd locker (B)

Explanation: Person 1 opens all lockers at the beginning.

3. What does "toggle" mean in the locker puzzle?

- A. Only open a locker
- B. Only close a locker
- C. Change the locker's state
- D. Remove the locker (C)

Explanation: Toggle means if a locker is open, it becomes closed; if closed, it becomes open.

4. Person 2 toggles which lockers?

- A. Every locker
- B. Every 2nd locker
- C. Every 3rd locker
- D. Every 4th locker (B)

Explanation: Person 2 toggles lockers numbered 2, 4, 6, 8, and so on.

5. Which pair is a partner factor pair of 6?

- A. 1 and 5
- B. 2 and 3
- C. 2 and 4
- D. 3 and 6 (B)

Explanation: Partner factors multiply to give the number. Here, $2 \times 3 = 6$.

6. Which number has only one factor?

- A. 1
- B. 2
- C. 4
- D. 9 (A)

Explanation: The number 1 has only one factor, which is 1.

7. Which of these numbers has an odd number of factors?

- A. 6
- B. 8
- C. 9
- D. 10 (C)

Explanation: 9 has factors 1, 3, and 9, so it has 3 factors.

8. A number made by multiplying a number by itself is called a:

- A. Prime number
- B. Square number
- C. Even number
- D. Odd number (B)

Explanation: A square number is written as $n \times n$, such as $4 \times 4 = 16$.

9. Which locker will remain open at the end?

- A. 10
- B. 16
- C. 18
- D. 20 (B)

Explanation: Only square-numbered lockers remain open, and 16 is a square number.

10. Which is not a partner factor pair of 30?

- A. 3, 10
- B. 6, 5
- C. 1, 30
- D. 2, 10 (D)

Explanation: $2 \times 10 = 20$, not 30, so it is not a partner factor pair of 30.