Mathematics — Ganita Manjari

Chapter 10 Test 2

How Quantities Combine: Understanding Data

Class IX | 2026–27

Time Allowed: 45 Minutes | Maximum Marks: 25

General Instructions

1. All 13 questions are compulsory. Calculators are not allowed.
2. Select one correct option in Section A. Show working in Sections B–D.
3. Use given data. Assume additive volumes and no loss unless stated.

SECTION A

(5 questions × 1 mark = 5 marks)

1. Five children average 12 years. A 12-year-old joins. What is the new mean?

(A) It increases
(B) It decreases
(C) It remains 12
(D) It becomes 14.4

2. One of ten scores rises by 20. By how much does the mean increase?

(A) 1
(B) 2
(C) 10
(D) 20

3. A below-mean score is removed. What happens to the remaining mean?

(A) It increases
(B) It decreases
(C) It stays unchanged
(D) It becomes zero

4. Which chart compares sports participation shares in schools of different sizes?

(A) A count-only table
(B) 100% stacked chart
(C) An unlabelled bar
(D) A list of means

5. Find the salt mass in a 200 g mixture containing 10% salt by mass.

(A) 2 g
(B) 10 g
(C) 20 g
(D) 190 g

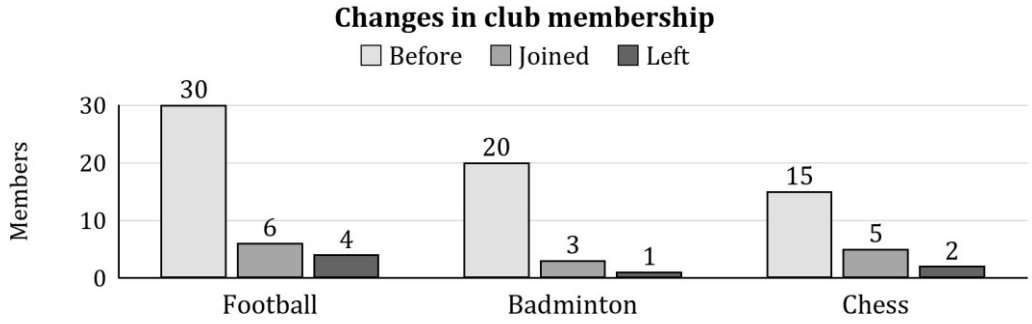
SECTION B

(4 questions × 2 marks = 8 marks)

6. Eight players have mean height 150 cm. A player of height 168 cm joins. Find the new mean height.

7. Five players have mean mass 40 kg. One player of mass 44 kg leaves. Find the mean mass of the remaining players.

8. Using the chart in figure, find the clubs' total membership after the changes and identify the greatest net gain.



9. Ten players have mean age 12 years. After one player joins, the mean becomes 13 years. Find the new player's age.

SECTION C

(3 questions × 3 marks = 9 marks)

10. Ten players have mean age 15 years. A 12-year-old is replaced by a 22-year-old. Find the new mean and explain why the denominator remains unchanged.

11. Eight runners have mean practice time 14 minutes. Two runners recording 16 and 18 minutes join; an original runner recording 11 minutes then leaves. Find the final mean.

12. In figure, School A has 200 participants and School B has 300. Each participant plays exactly one listed sport.



(i) Which sport has the largest share in B?
(ii) Which school has more cricket participants, and by how many?
(iii) Find the total football participants.

SECTION D

(1 application question × 3 marks = 3 marks)

13. Speed and endurance scores of 60 and 80 have weights 2 : 3. Endurance improves by 10 points. Find the old and new weighted scores and their difference.