

Finding the Average — Mean of a Data Set

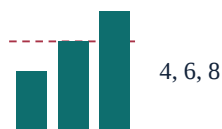
Unit: Data Handling - Student Practice Worksheet

Overview: Five friends compared their spelling test scores: 8, 6, 10, 7, 9. Kabir asked: what's a fair single number to describe the *WHOLE* group's performance? Not the highest score. Not the lowest. Something in between, found by sharing.

Practice Questions (30 Total)

Section A - Easy

Q1. Bars 4, 6, 8. Mean height?



- ☐ A. 18
- ☐ B. 6
- ☐ C. 4
- ☐ D. 8

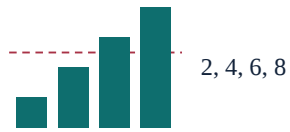
Q2. The mean of a data set is found by:

- ☐ A. Adding all values then dividing by the count
- ☐ B. Multiplying all values
- ☐ C. Picking the highest value
- ☐ D. Picking the lowest value

Q3. Find the mean of 10, 10, 10.

- ☐ A. 30
- ☐ B. 20
- ☐ C. 10
- ☐ D. 0

Q4. Bars 2, 4, 6, 8. Mean?



- ☐ A. 5
- ☐ B. 20
- ☐ C. 4
- ☐ D. 8

Q5. Another name for the mean is:

- ☐ A. The total
- ☐ B. The highest value
- ☐ C. The count
- ☐ D. The average

Q6. Find the mean of 5, 15.

- ☐ A. 20
- ☐ B. 5
- ☐ C. 10
- ☐ D. 15

Q7. Four equal bars of 3. Mean?



- ☐ A. 3
- ☐ B. 12
- ☐ C. 0
- ☐ D. 6

Q8. Can the mean of a data set be higher than every single value?

- ☐ A. Yes, often
- ☐ B. No, never
- ☐ C. Only with odd numbers
- ☐ D. Only with 2 values

Q9. What is a 'data set'?

- ☐ A. A single number
- ☐ B. A type of graph
- ☐ C. A calculator function
- ☐ D. A collection of related numbers or values

Q10. An outlier in a data set is:

- ☐ A. The mean itself
- ☐ B. A value much larger or smaller than the rest
- ☐ C. The middle value
- ☐ D. Any even number

Section B - Medium

Q11. Five spelling bars. Mean?



- ☐ A. 8
- ☐ B. 40
- ☐ C. 10
- ☐ D. 6

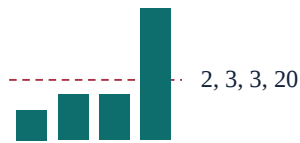
Q12. Why did Kabir say 7 felt like a strange mean for the book-count data?

- ☐ A. Because 7 is an odd number
- ☐ B. Because the calculation was wrong
- ☐ C. 3 of the 4 students read fewer than 7 books
- ☐ D. Because means can never be whole numbers

Q13. Find the mean of 12, 15, 18, 21, 24.

- ☐ A. 15
- ☐ B. 21
- ☐ C. 90
- ☐ D. 18

Q14. Books 2, 3, 3, 20. Mean?



- ☐ A. 3
- ☐ B. 7
- ☐ C. 28
- ☐ D. 20

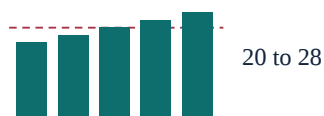
Q15. A data set has mean 10 with 4 values. What is the sum of all 4 values?

- ☐ A. 40
- ☐ B. 10
- ☐ C. 14
- ☐ D. 4

Q16. A data set has mean 6 with 5 values. What is the sum of all 5 values?

- ☐ A. 11
- ☐ B. 30
- ☐ C. 6
- ☐ D. 5

Q17. Temperatures 20, 22, 24, 26, 28. Mean?



- ☐ A. 22
- ☐ B. 26
- ☐ C. 24
- ☐ D. 120

Q18. Which of these is TRUE about the mean?

- ☐ A. It always falls between the lowest and highest value
- ☐ B. It is always the largest value
- ☐ C. It is always the smallest value

- ☐ D. It can be any number at all, unrelated to the data

Q19. Four scores are 5, 5, 5, and an unknown value, with mean 6. What is the unknown value?

- ☐ A. 5
- ☐ B. 6
- ☐ C. 24
- ☐ D. 9

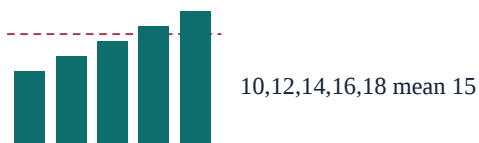
Q20. Bars 100, 200, 300. Mean?



- ☐ A. 600
- ☐ B. 200
- ☐ C. 150
- ☐ D. 300

Section C - Challenge

Q21. Five scores plus a sixth to make mean 15. Sixth?



- ☐ A. 20
- ☐ B. 15
- ☐ C. 70
- ☐ D. 90

Q22. Anaya says: 'If I add a value equal to the current mean, the mean itself will not change.' Is she right?

- ☐ A. No, adding any value always changes the mean
- ☐ B. Only if the value is the highest in the set
- ☐ C. Only if the value is the lowest in the set
- ☐ D. Yes — adding exactly the mean value keeps the average the same

Q23. A shop's daily sales for 5 days were Rs. 200, Rs. 250, Rs. 300, Rs. 150, and an unknown 5th day, with a mean of Rs. 250. What were the 5th day's sales?

- ☐ A. Rs. 250
- ☐ B. Rs. 350
- ☐ C. Rs. 300
- ☐ D. Rs. 150

Q24. Four innings at 40, then 60. New mean?



- ☐ A. 50
- ☐ B. 40
- ☐ C. 44
- ☐ D. 60

Q25. Ms. Rao's book-count example (2, 3, 3, 20) had mean 7. Which single change would bring the mean CLOSER to the typical value of most students?

- ☐ A. Removing the outlier value of 20 from the average
- ☐ B. Adding another value of 20
- ☐ C. Doubling every value
- ☐ D. Removing one of the values of 3

Q26. A data set of 3 values has a mean of 9. If two of the values are 5 and 9, what is the third?

- ☐ A. 9
- ☐ B. 13
- ☐ C. 27
- ☐ D. 14

Q27. Scores 8, 9, 7 and a fourth to mean 8.5. Fourth?



- ☐ A. 8
- ☐ B. 9
- ☐ C. 10
- ☐ D. 12

Q28. A data set has 5 values, all equal. What is the relationship between the mean and each value?

- ☐ A. The mean is always higher
- ☐ B. The mean is always lower
- ☐ C. There is no relationship
- ☐ D. The mean equals every value exactly

Q29. Two classes have means of 60 and 80 on the same test, with 10 students each. What is the combined mean of all 20 students?

- ☐ A. 70
- ☐ B. 60
- ☐ C. 80
- ☐ D. 140

Q30. Why does Ms. Rao warn that the mean 'doesn't always represent every individual fairly'?

- ☐ A. Because the mean is always calculated incorrectly
- ☐ B. Because a single very different value can shift the mean away from where most of the real data actually sits
- ☐ C. Because means only work for even-sized data sets
- ☐ D. Because the mean is the same as the highest value

Answer Key

Q1: (B) (b) 6. $(4+6+8) \div 3 = 18 \div 3 = 6$.

Q2: (A) (a) Adding all values then dividing by the count.

Q3: (C) (c) 10. $(10+10+10) \div 3 = 10$.

Q4: (A) (a) 5. $(2+4+6+8) \div 4 = 20 \div 4 = 5$.

Q5: (D) (d) The average.

Q6: (C) (c) 10. $(5+15) \div 2 = 10$.

Q7: (A) (a) 3. $(3+3+3+3) \div 4 = 3$.

Q8: (B) (b) No, never — the mean always falls between the lowest and highest value.

Q9: (D) (d) A collection of related numbers or values.

Q10: (B) (b) A value much larger or smaller than the rest of the data.

Q11: (A) (a) 8. Total $40 \div 5 = 8$.

Q12: (C) (c) Because 3 of the 4 students read fewer than 7 books — the one large value (20) pulled the mean higher than most of the group.

Q13: (D) (d) 18. Total $90 \div 5 = 18$.

Q14: (B) (b) 7. Total $28 \div 4 = 7$.

Q15: (A) (a) 40. Sum = mean $\times$ count = $10 \times 4 = 40$.

Q16: (B) (b) 30. Sum = mean $\times$ count = $6 \times 5 = 30$.

Q17: (C) (c) 24. Total $120 \div 5 = 24$.

Q18: (A) (a) It always falls between the lowest and highest value in the set.

Q19: (D) (d) 9. Sum needed = $6 \times 4 = 24$; $24 - (5+5+5) = 9$.

Q20: (B) (b) 200. Total $600 \div 3 = 200$.

Q21: (A) (a) 20. Total needed = $15 \times 6 = 90$; sum of 5 known = 70; sixth = $90 - 70 = 20$.

Q22: (D) (d) Yes — adding a value exactly equal to the current mean keeps the average unchanged, since it doesn't pull the total up or down relative to the count.

Q23: (B) (b) Rs. 350. Total needed = $250 \times 5 = 1250$; sum of 4 known = 900; 5th day = $1250 - 900 = 350$.

Q24: (C) (c) 44. Old total = $40 \times 4 = 160$; new total = $160 + 60 = 220$; new mean = $220 \div 5 = 44$.

Q25: (A) (a) Removing the outlier (20) and recalculating the mean of just 2, 3, 3 gives a mean of about 2.7, much closer to what most students actually read.

Q26: (B) (b) 13. Total needed = $9 \times 3 = 27$; $27 - (5+9) = 13$.

Q27: (C) (c) 10. Total needed = $8.5 \times 4 = 34$; sum of 3 known = 24; 4th score = $34 - 24 = 10$.

Q28: (D) (d) The mean equals every value exactly, since sharing an already-equal total equally leaves it unchanged.

Q29: (A) (a) 70. Combined total = $(60 \times 10) + (80 \times 10) = 1400$; mean = $1400 \div 20 = 70$.

Q30: (B) (b) A single very different value (an outlier) can pull the mean away from where most of the actual data sits, so the mean alone doesn't always describe every individual well.

You've got this! Keep learning and shining! - Ruchi Math Coaching