

CLASS 7

MATHS

EXTRA QUESTIONS

Extra Questions for Class 7 Maths Chapter 13: Connecting the Dots

Fresh practice questions for Class 7 Maths Chapter 13 "Connecting the Dots", reinforcing mean, median, dot plots, and bar graphs.

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Q1.

Find the mean and median of the data set: 12, 15, 9, 21, 15, 18, 9, 15.

Answer: Sum = $12+15+9+21+15+18+9+15 = 114$. Mean = $114 \div 8 = 14.25$.

Sorted: 9, 9, 12, 15, 15, 15, 18, 21. Median = average of 4th and 5th terms = $(15 + 15) \div 2 = 15$. Mean = **14.25**.

Q2. Assertion-Reason

Assertion (A): The mean of a data set can never be less than its minimum value or greater than its maximum value.

Reason (R): The mean is calculated using only the values already present in the data set, so it must fall within their range.

Answer: Both A and R are true, and R correctly explains A.

Q3.

A data set has 12 values. Which value(s) do you need to find the median?

Answer: Since 12 is even, you sort the data and take the average of the 6th and 7th terms (the two middle values) to find the median.

Q4. Spot the Error

A student calculated “how many times more” one bar’s value (60) is compared to another (15) by writing: “ $60 + 15 = 75$, so it is 75 times more.” Identify and correct the error.

Answer: Incorrect. To find “how many times more” one value is compared to another, you must **divide**, not add: $60 \div 15 = 4$ **times**.

Q5.

The weights (kg) of 5 students are 32, 35, 30, 34, 34. If a 6th student weighing 45 kg joins the group, how does the mean change?

Answer: Original sum = $32+35+30+34+34 = 165$. Original mean = $165 \div 5 = 33$ kg.

New sum = $165 + 45 = 210$. New mean = $210 \div 6 = 35$ kg.

The mean increases from 33 kg to **35 kg**, because the new student’s weight (45 kg) is well above the original mean, pulling the average up.

Q6. HOTS

A cricket player's runs in 5 innings are 45, 60, 20, 90, 35. In the 6th innings, how many runs must they score to raise their mean to exactly 50?

Answer: For a mean of 50 over 6 innings, total runs needed = $50 \times 6 = 300$.

Current total (5 innings) = $45+60+20+90+35 = 250$.

Runs needed in the 6th innings = $300 - 250 = \mathbf{50 \text{ runs}}$.

Q7.

Explain, with an example, why the median is sometimes a better representative value than the mean.

Answer: The median is less affected by extreme values (outliers) than the mean. For example, for the data 2, 3, 4, 5, 50, the mean is $(2+3+4+5+50) \div 5 = 12.8$, which is far higher than almost every value, while the median (the middle value, 4) better represents the "typical" value in the data set.

Q8.

What is a dot plot, and when is it more useful than a bar graph?

Answer: A dot plot represents each individual data value as a dot placed above its position on a number line. It's especially useful for smaller data sets because it shows every individual value (and repeated values, as stacked dots), letting you see the spread, clusters, and outliers directly — something a bar graph (which usually groups or totals data) doesn't show as clearly.

Q9.

Two vendors' daily sales (in units) over a week are: Vendor A: 20, 22, 21, 19, 23, 20, 25; Vendor B: 15, 30, 10, 35, 12, 28, 20. Both have the same mean (21.43, rounded). Which vendor's sales are more consistent, and how can you tell without just looking at the mean?

Answer: Vendor A's sales are more consistent. Even though both vendors may have similar means, Vendor A's values (19 to 25) are clustered tightly together, while Vendor B's values (10 to 35) are spread out widely. Plotting both data sets as dot plots would show Vendor A's dots bunched closely and Vendor B's dots scattered — the mean alone doesn't reveal this difference in spread.

Q10.

A double-bar graph compares the number of books read by boys and girls in a class over 4 months. What key features should such a graph always include to be read correctly?

Answer: A double-bar graph must include: a clear title, labelled axes (categories on one axis, values on the other), a stated scale (what one unit of bar length represents), two differently coloured/patterned bars per category (one for each group being compared), and a legend/key identifying which colour represents which group.

See also: [NCERT Solutions for Class 7 Maths Chapter 13](#)

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