

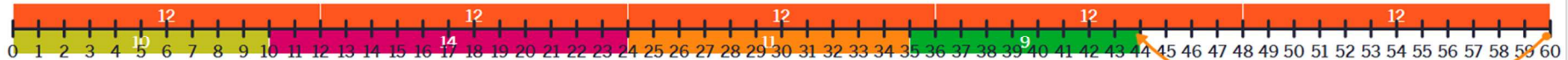
Problem Solving Involving the Mean

Sometimes you need to determine the missing number in a data set when the mean is given.
Follow these steps to find the missing number.

1. **Represent the problem:** Use a number line or a bar model to visualise the mean. Remember, the mean represents each number's value if all were equal.
2. **Calculate the total:** Use the mean to calculate the total of the data set.
3. **Show the known numbers on the number line:** Place the known values on the number line.
4. **Calculate the missing value:** The missing value is found by subtracting the sum of the known values from the total sum of the data set.
5. **State the final answer:** Give the final answer.

Example: The mean of five numbers is 12. Four of the numbers are 10, 14, 11, and 9. What is the missing number?

The **total of the data set** is $12 \times 5 = 60$



The **sum of the known values** is $10 + 14 + 11 + 9 = 44$

$$60 - 44 = 16$$

Answer: The missing number is 16.

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