



SUMMARISING DATA

MEAN, MEDIAN, MODE AND RANGE

NO CALCULATOR

Ref: G621. **1E1**

<p>A1 Five integers have a mean of 8. The integers are:</p> <p style="text-align: center;">3, 10, 13, x, 7</p> <p>Find the value of x</p>	<p>A2 Six positive integers have a range of 13. The integers are:</p> <p style="text-align: center;">5, 9, 7, 12, 3, x</p> <p>Find the value of x</p>	<p>A3 Four numbers have a mean of 9 and a median of 6. The four numbers are:</p> <p style="text-align: center;">2, 5, a, b</p> <p>Find the value of a and b.</p>	<p>A4 Three positive integers have a mean of 5 and a range of 10. Find the values of the three integers.</p>
<p>B1 Three positive integers are all different. They have a mean of 8 and a median of 11. Find the values of the three integers.</p>	<p>B2 a, b, c and d are four integers. Their mode is 5 Their mean is 7 Their median is 5.5 Find the values of the four integers.</p>	<p>B3 In a set of three integers, the first is twice the second and the second is twice the third. The mean of the three integers is 14. Find the values of the three integers.</p>	<p>B4 In a set of three integers, the mean of first two is 2, the mean of the last two is 3, and the mean of the first and the last is 4. What are the three integers?</p>
<p>C1 The mean of some numbers is 8. What happens to the mean if all of the numbers are increased by 3?</p>	<p>C2 The range of some numbers is 5. What happens to the range if all of the numbers are increased by 3?</p>	<p>C3 The mean of some numbers is 3. What happens to the mean if all of the numbers are multiplied by 2?</p>	<p>C4 The range of some numbers is 4. What happens to the range if all of the numbers are multiplied by 2?</p>
<p>D1 The mean score for the first 4 rolls of a dice is 3.5 The mean score for the next 6 rolls of the dice is 4.5 Work out the mean score for all 10 rolls of the dice.</p>	<p>D2 The mean of five numbers is 6.5 Another number is added and the mean of all six of the numbers is 7. What number was added?</p>	<p>D3 After 4 tests, Pat's mean score is 82%. How much must Pat score in her 5th test if she wants to increase her mean score to 85%?</p>	<p>D4 The mean height of five players in a basketball team is 185 cm. When a player of height 183 cm is substituted, the mean height of the team goes down to 181 cm. How tall is the substitute player?</p>



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<p>A1</p> $\begin{aligned} \text{total} &= 5 \times 8 \\ &= 40 \\ x &= 40 - (3 + 10 + 13 + 7) \\ &= 7 \end{aligned}$	<p>A2</p> $\begin{aligned} x - 3 &= 13 \\ x &= 16 \end{aligned}$	<p>A3</p> $\begin{aligned} \text{total} &= 4 \times 9 \\ &= 36 \\ 2, 5, 7, 22 \end{aligned}$	<p>A4</p> $\begin{aligned} \text{total} &= 3 \times 5 \\ &= 15 \\ 1, 3, 11 \end{aligned}$
<p>B1</p> $\begin{aligned} \text{total} &= 3 \times 8 \\ &= 24 \\ 1, 11, 12 \end{aligned}$	<p>B2</p> $\begin{aligned} \text{total} &= 4 \times 7 \\ &= 28 \\ 5, 5, 6, 12 \end{aligned}$	<p>B3</p> $\begin{aligned} 4x, 2x, x \\ \frac{4x + 2x + x}{3} &= 14 \\ x &= 6 \\ 24, 12, 6 \end{aligned}$	<p>B4</p> $3, 1, 5$
<p>C1 The mean of some numbers is 8. What happens to the mean if all of the numbers are increased by 3? The mean also increases by 3</p>	<p>C2 The range of some numbers is 5. What happens to the range if all of the numbers are increased by 3? The range stays the same $(L + 3) - (S + 3) = L - S$</p>	<p>C3 The mean of some numbers is 3. What happens to the mean if all of the numbers are multiplied by 2? The mean is also multiplied by 2</p>	<p>C4 The range of some numbers is 4. What happens to the range if all of the numbers are multiplied by 2? The range is also multiplied by 2 $2L - 2S = 2(L - S)$</p>
<p>D1</p> $\begin{aligned} \text{total}_1 &= 4 \times 3.5 \\ &= 14 \\ \text{total}_2 &= 6 \times 4.5 \\ &= 27 \\ \frac{14 + 27}{10} &= 4.1 \end{aligned}$	<p>D2</p> $\begin{aligned} \text{total}_1 &= 5 \times 6.5 \\ &= 32.5 \\ \text{total}_2 &= 6 \times 7 \\ &= 42 \\ 42 - 32.5 &= 9.5 \end{aligned}$	<p>D3</p> $\begin{aligned} \text{total}_1 &= 4 \times 82 \\ &= 328 \\ \text{total}_2 &= 5 \times 85 \\ &= 425 \\ 425 - 328 &= 97\% \end{aligned}$	<p>D4</p> $\begin{aligned} \text{total}_1 &= 5 \times 185 & \text{total}_2 &= 5 \times 181 \\ &= 925 & &= 905 \\ 925 - 905 &= 20 \\ 183 - 20 &= 163 \text{ cm} \end{aligned}$