



Calculating ranges and averages: problems

Calculate the average (mean) by adding up the figures then dividing by the number of figures. Calculate the range by subtracting the lowest value from the highest value.

average = total amount divided by total number of figures
range = highest minus lowest value

Example

The prices of 4 cakes are 55p, 75p, 80p and 90p. Find the average price and the range of prices. The total amount of these figures is $55 + 75 + 80 + 90 = 300$. There are 4 prices; the average is $300 \div 4 = 75$.

The average price of a cake is **75p**.
The range of prices = $90\text{p} - 55\text{p} = \mathbf{35\text{p}}$.

Calculate the average and the range in each of these problems:

1. Four students work part-time in a local supermarket. Their weekly wages are £38, £45, £62 and £75. What is the average weekly wage? What is the range of weekly wages?
2. The daytime temperatures recorded over 5 consecutive days in September were 14.6°C , 15.2°C , 15.8°C , 16.1°C , and 16.3°C . What was the average temperature over the 5 days? What was the range of temperatures over the 5 days?
3. There are 4 GCSE maths classes in a college. The number of students in each class is 21, 22, 25, and 28. What is the average size of a GCSE maths class? What is the range of students across classes?
4. Four people in a group weigh 64 kg, 70 kg, 180 kg and 70 kg. What is the average weight of this group of people? What is the range of weights?
5. A student is taking 5 subjects. Her results in the end of term tests were 56%, 76%, 58%, 67% and 83%. What is the average percentage mark overall? What is the range of marks?

Now compare your answers with the answer sheet.