

小六數學溫習摘要

Primary 6 Mathematics Revision Summary

6D1 平均數

6D1 Averages

平均數把一組數據的總量平均分配給每一項。求平均、還原總和或找缺失數據時，都要先數清項數。

An average shares the total equally among the data items. Count the items carefully when finding averages, totals or missing values.

學習重點

What to learn

- 平均數 = 各項數據的總和 ÷ 項數；所研究的數據組不能是空的。
The arithmetic mean is the sum divided by the number of items in a non-empty data set.
- 已知平均數和項數，總和 = 平均數 × 項數。
Recover a total by multiplying the mean by the number of items.
- 已知總和及其餘數據，可用相減找出一項未知數據。
Subtract the known values from the total to find one missing value.
- 資料可來自表格或統計圖；先讀清每個數量，再計算總和。
Data may come from a table or chart; read each quantity before adding.

考試前必記

Remember before a test

- 0 也是一項數據；重複出現的數，每次都要計入總和和項數。
Zero counts as an item. Count repeated values each time they occur.
- 平均數不一定等於其中一項，也不一定是整數；例如平均每盒可有 4.5 件。
A mean need not appear in the data or be a whole number.
- 平均數必在最小值和最大值之間，包括兩端；可先用這個範圍估計是否合理。
The mean lies between the minimum and maximum, inclusive; use this to check plausibility.
- 合併兩組資料時，應把兩組總和及項數分別相加；組大小不同，不能直接平均兩個平均數。
To combine groups, add their totals and counts; unequal group sizes prevent simply averaging their means.

常見錯誤

Common mistakes

- 總和算對，卻用錯項數，例如把沒有紀錄和紀錄為 0 混淆。
Using the wrong count, especially confusing missing data with a recorded zero.
- 把最大值和最小值相加再除以 2，當作任何一組數的平均數。
Using the midpoint of the minimum and maximum as the mean of every data set.
- 新增一項數據後只改總和，沒有同步把項數加 1。
Updating the total but not the count after adding a data item.
- 求平均長度、重量或價錢後，忘記保留對應單位。
Omitting the unit when reporting an average quantity.

快速自查

Quick check

☐ 能數清 0 和重複數據 I can count zeros and repeated values.	☐ 能求平均數及還原總和 I can find means and totals.
☐ 能找出一項缺失數據 I can find a missing value.	☐ 能檢查平均數的合理範圍 I can check the possible range.

自編例題

Original worked example

四盒珠子的平均數量是 17 粒，其中三盒分別有 12、19、15 粒。第四盒有多少粒？

Four boxes contain an average of 17 beads each. Three boxes contain 12, 19 and 15 beads. How many are in the fourth box?

思考與解答：總數 = $17 \times 4 = 68$ 粒；第四盒 = $68 - 12 - 19 - 15 = 22$ 粒。

Reasoning and answer: Total = $17 \times 4 = 68$ beads; fourth box = $68 - 12 - 19 - 15 = 22$ beads.

再試與答案：0、6、6、12 的平均數是多少？答案： $24 \div 4 = 6$ 。

Further practice and answer: Find the average of 0, 6, 6 and 12. Answer: $24 \div 4 = 6$.