

小六數學溫習摘要

Primary 6 Mathematics Revision Summary

6N4 百分數 (二)

6N4 Percentages II

先找出代表 100% 的數量，再判斷要求的是部分、整體、所佔百分數，還是增加或減少的幅度。

Identify the 100% reference before finding a part, a whole, a percentage or a percentage change.

學習重點

What to learn

- 求某部分佔整體多少：把部分除以整體，再乘 100%；整體不能為 0。
A part as a percentage of a non-zero whole is $\text{part} \div \text{whole} \times 100\%$.
- 已知整體和所佔百分數，用整體乘該百分數求部分。
Find a part by multiplying the whole by its percentage.
- 已知部分及其所佔百分數，用部分除以該非零百分數，還原整體。
Recover the whole by dividing the part by its non-zero percentage.
- 求增減百分率，用增加量或減少量除以原數量，再乘 100%。
For a percentage increase or decrease, divide the change by the original amount and multiply by 100%.

考試前必記

Remember before a test

- 「甲是乙的百分之幾」以乙作標準；「甲佔總數多少」則以總數作標準。
“A as a percentage of B” uses B as the reference; “A as a part of the total” uses the total.
- 增加 15% 後是原量的 115%；減少 15% 後是原量的 85%。
A 15% increase gives 115% of the original; a 15% decrease leaves 85%.
- 比較「多百分之幾」時，只把多出的部分作分子，不是把增加後的總量作分子。
For “what percent more”, use the increase as the numerator, not the new total.
- 回復原量和按相同百分率反向改變並不一樣，因為第二次的比較標準已改變。
Reversing a change by the same percentage does not generally restore the original because the reference has changed.

常見錯誤

Common mistakes

- 沒有分清比較標準，將部分、另一組和總數混作分母。
Using the wrong reference as the denominator.
- 把「增加至 120%」看成「增加 120%」；前者只增加了原量的 20%。
Confusing “increase to 120%” with “increase by 120%”.
- 已知部分求整體時仍用乘法，沒有反過來除以所佔百分數。
Multiplying instead of dividing when recovering the whole from a part.
- 數量題只寫百分數，或百分數題只寫實際數量，沒有回應所問。
Giving a percentage when an amount is required, or the reverse.

快速自查

Quick check

☐ 能指出哪個量代表 100% I can identify the 100% reference.	☐ 能求部分及還原整體 I can find parts and recover wholes.
☐ 能計算增加或減少的百分率 I can calculate percentage changes.	☐ 能分辨增加至和增加了 I can distinguish “to” from “by”.

自編例題

Original worked example

合唱團原有 40 人，加入新成員後有 46 人。人數增加了百分之幾？

A choir had 40 members. After new members joined, it had 46. What was the percentage increase?

思考與解答：增加 $46 - 40 = 6$ 人； $6 \div 40 \times 100\% = 15\%$ 。 $46 \div 40 \times 100\%$ 得到的 115% 是新總數佔原總數的百分數。

Reasoning and answer: The increase is $46 - 40 = 6$ members; $6 \div 40 \times 100\% = 15\%$. The result of $46 \div 40 \times 100\%$, namely 115%, expresses the new total as a percentage of the original total.

再試與答案：18 張貼紙佔全部的 30%，共有多少張？答案： $18 \div 30\% = 60$ 張。

Further practice and answer: 18 stickers are 30% of all the stickers. How many are there altogether? Answer: $18 \div 30\% = 60$ stickers.