

小五數學溫習摘要

Primary 5 Mathematics Revision Summary

5S2 立體圖形（三）

5S2 Three-Dimensional Shapes III

認識立體的截面、面、稜和頂點，掌握正方體、長方體、圓柱和球的性質，並辨認摺紙圖樣。

Learn about cross-sections, faces, edges, vertices, solid properties and nets.

學習重點

What to learn

- 平行於底切開角柱或圓柱，截面的形狀和大小與底相同。
A cross-section parallel to the base of a prism or cylinder has the same shape and size as the base.
- 平行於底切開角錐或圓錐，截面與底形狀相同；越接近尖頂，截面越小。
Cross-sections parallel to the base of a pyramid or cone have the same shape as the base and become smaller towards the apex.
- 球面上各點到球心的距離相等；平面切過球的內部，所得截面是圓。
Every point on a sphere is the same distance from its centre. A plane cutting through its interior produces a circular cross-section.
- 判斷及製作正方體、長方體和圓柱的摺紙圖樣。
Decide whether a net can form a cube, cuboid or cylinder, and make a suitable net.

考試前必記

Remember before a test

- 角柱和角錐中，兩個面相交的線段是稜，多條稜相交的點是頂點；數數時須包括看不見的部分。
In prisms and pyramids, an edge is a line segment where two faces meet; vertices are where edges meet. Include hidden parts.
- 正方體有 6 個正方形面、12 條稜和 8 個頂點。長方體亦有 6 個面、12 條稜和 8 個頂點。
A cube has 6 square faces, 12 edges and 8 vertices. A cuboid also has 6 faces, 12 edges and 8 vertices.
- 圓柱有兩個相等的圓形平面和一個曲面；球只有一個連續曲面。
A cylinder has two equal circular flat surfaces and one curved surface. A sphere has one continuous curved surface.
- 檢查摺紙圖樣時，要想像摺起後哪些面相對，避免兩個面重疊或缺面。
When checking a net, imagine folding it and check which faces become opposite. No face should overlap or be missing.

常見錯誤

Common mistakes

- 把圖中看不見的稜或頂點漏數。
Missing hidden edges or vertices in a drawing.
- 把曲面和稜混淆，或把圓柱曲面的邊界當成立體的直稜。
Confusing a curved surface with an edge, or treating the boundary of a cylinder's curved surface as a straight edge.
- 看到六個正方形便以為一定是正方體摺紙圖樣，沒有檢查摺起後會否重疊。
Assuming that any six squares form a cube net without checking for overlaps.
- 只看立體圖像的方向，誤以為旋轉後便是另一種立體。
Thinking that a rotated picture shows a different solid.

快速自查

Quick check

☐ 能比較平行於底的截面 I can compare cross-sections parallel to the base.	☐ 能數出正方體和長方體的面、稜和頂點 I can count the faces, edges and vertices of cubes and cuboids.
☐ 能說出球心及球的截面的性質 I can describe a sphere's centre and cross-sections.	☐ 能判斷摺紙圖樣能否摺成立體 I can decide whether a net can fold into a solid.