



Cross-sections of solids

GRADE 7 MATH

Name _____

Date _____

Answer every item. Sketch the slice where it helps, and name the 2-D shape. One skill: **cross-sections**.

WORKED EXAMPLE

A cross-section is the flat face you see when you slice a solid. Ask **what the knife meets**, not what the solid looks like. Slice a cylinder **horizontally** and the knife meets the curved wall all the way round → a **circle**. Slice it **vertically** and the knife meets the flat top, the flat bottom and two bits of wall → a **rectangle**. Same solid, different slice, different shape.

1. A cylinder is sliced horizontally, parallel to its base. What shape is the cross-section?

FLUENCY

Show your thinking

Answer

2. The same cylinder is sliced vertically, straight down through the middle. What shape now? Explain what the knife meets.

REASONING

Show your thinking

Answer

3. A square-based pyramid is sliced horizontally, then vertically through the apex. Name both cross-sections.

APPLICATION

Show your thinking

Answer

4. A sphere is sliced in any direction at all. What shape is the cross-section, and why is a sphere different from every other solid here?

REASONING

Show your thinking

Answer