



Cross-sections of solids

GRADE 7 MATH

Name _____

Date _____

Work in order. For each, say what the knife meets before naming the shape. One skill: **cross-sections**.

WORKED EXAMPLE

Ask what the **knife** meets, face by face. Flat faces give straight edges; curved surfaces give curved edges **only when the knife travels around them**. The direction of the slice matters as much as the solid.

1. A rectangular prism is sliced horizontally. What shape is the cross-section?

FLUENCY

Show your thinking

Answer

2. The same prism is sliced vertically. What shape now?

FLUENCY

Show your thinking

Answer

3. Why does the prism give the same kind of shape both ways, when the cylinder did not?

REASONING

Show your thinking

Answer

4. A cone is sliced horizontally, parallel to its base. What shape?

APPLICATION

Show your thinking

Answer

5. The same cone is sliced vertically through the apex. What shape?

APPLICATION

Show your thinking

Answer

6. A cylinder is sliced horizontally, then vertically. Name both shapes.

APPLICATION

Show your thinking

Answer

7. Which of these solids have at least one curved surface: prism, cylinder, pyramid, cone, sphere?

APPLICATION

Show your thinking

Answer

8. Of those five solids, which gives a circle no matter how it is sliced? Explain why only one does.

REASONING

Show your thinking

Answer

9. A student says “round solids give round cross-sections.” Give two counterexamples from this sheet and state a better rule.

REASONING

Show your thinking

Answer