

Slice Shape Search

Find the flat shape inside a solid.

GRADE 7 • 7.G.A.3

CCSS.Math.Content.7.G.A.3 "Describe the two-dimensional figures that result from slicing three-dimensional figures, as in plane sections of right rectangular prisms and right rectangular pyramids."

NAME _____

DATE _____

SLICE CLUES

A slice parallel to a face has the same shape and side lengths as that face. In a right rectangular pyramid, a slice parallel to the base is a smaller, similar rectangle.

WORKED EXAMPLE

A right rectangular prism has a base 11 cm by 8 cm and a height of 6 cm. A plane cuts parallel to the base. Describe the section.

1. The plane is parallel to the base.
2. A parallel slice matches the base.
3. The section is 11 cm by 8 cm.

Answer: Rectangle, 11 cm by 8 cm.

PRACTICE 5 problems

- 1** A right rectangular prism has a 9 cm by 4 cm base and is 3 cm high. Slice parallel to the base. Describe the section.

ANSWER _____

- 2** A right rectangular prism has a 16 cm by 5 cm base and is 10 cm high. Slice perpendicular to the base and parallel to the 5 cm edge. Describe the section.

ANSWER _____

- 3** A right rectangular pyramid has a 12 cm by 7 cm base and is 13 cm high. Slice parallel to the base. What shape is the section?

ANSWER _____

- 4** A plane cuts a right rectangular pyramid through its apex and a diagonal of its base. What shape is the section?

ANSWER _____

- 5** A right rectangular prism measures 14 cm by 2 cm by 15 cm. Slice parallel to its 14 cm by 15 cm face. Describe the section.

ANSWER _____

APPLY IT Show your work

- 1** A game designer makes a right rectangular pyramid trophy with a 21 cm by 15 cm base. A cut parallel to the base is $\frac{1}{3}$ of the way from the apex to the base. Describe the cut face.

WORK SPACE

ANSWER _____

- 2** A snack box is a right rectangular prism that is 20 cm long, 17 cm wide, and 19 cm high. A cut goes straight down, parallel to the 17 cm wide side. Describe the cut face.

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

A right rectangular pyramid has a 24 cm by 14 cm base. A plane parallel to the base is halfway from the apex to the base. Describe the section and explain why.

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	A right rectangular prism has a 9 cm by 4 cm base and is 3 cm high. Slice parallel to the base. Describe the section.	Rectangle, 9 cm by 4 cm.
2	A right rectangular prism has a 16 cm by 5 cm base and is 10 cm high. Slice perpendicular to the base and parallel to the 5 cm edge. Describe the section.	Rectangle, 5 cm by 10 cm.
3	A right rectangular pyramid has a 12 cm by 7 cm base and is 13 cm high. Slice parallel to the base. What shape is the section?	Rectangle.
4	A plane cuts a right rectangular pyramid through its apex and a diagonal of its base. What shape is the section?	Triangle.
5	A right rectangular prism measures 14 cm by 2 cm by 15 cm. Slice parallel to its 14 cm by 15 cm face. Describe the section.	Rectangle, 14 cm by 15 cm.

PART 2 • APPLY IT

1. **Rectangle, 7 cm by 5 cm.** The slice is similar to the base. Multiply both base lengths by $\frac{1}{3}$.
2. **Rectangle, 17 cm by 19 cm.** The cut is parallel to a side face. Its side lengths are the width and height.

CHALLENGE

Rectangle, 12 cm by 7 cm. Halfway from the apex gives a $\frac{1}{2}$ scale factor, so both base lengths are halved.

Accept rectangle dimensions in either order. For pyramid slices parallel to the base, accept equivalent explanations using similar figures and the stated scale factor.