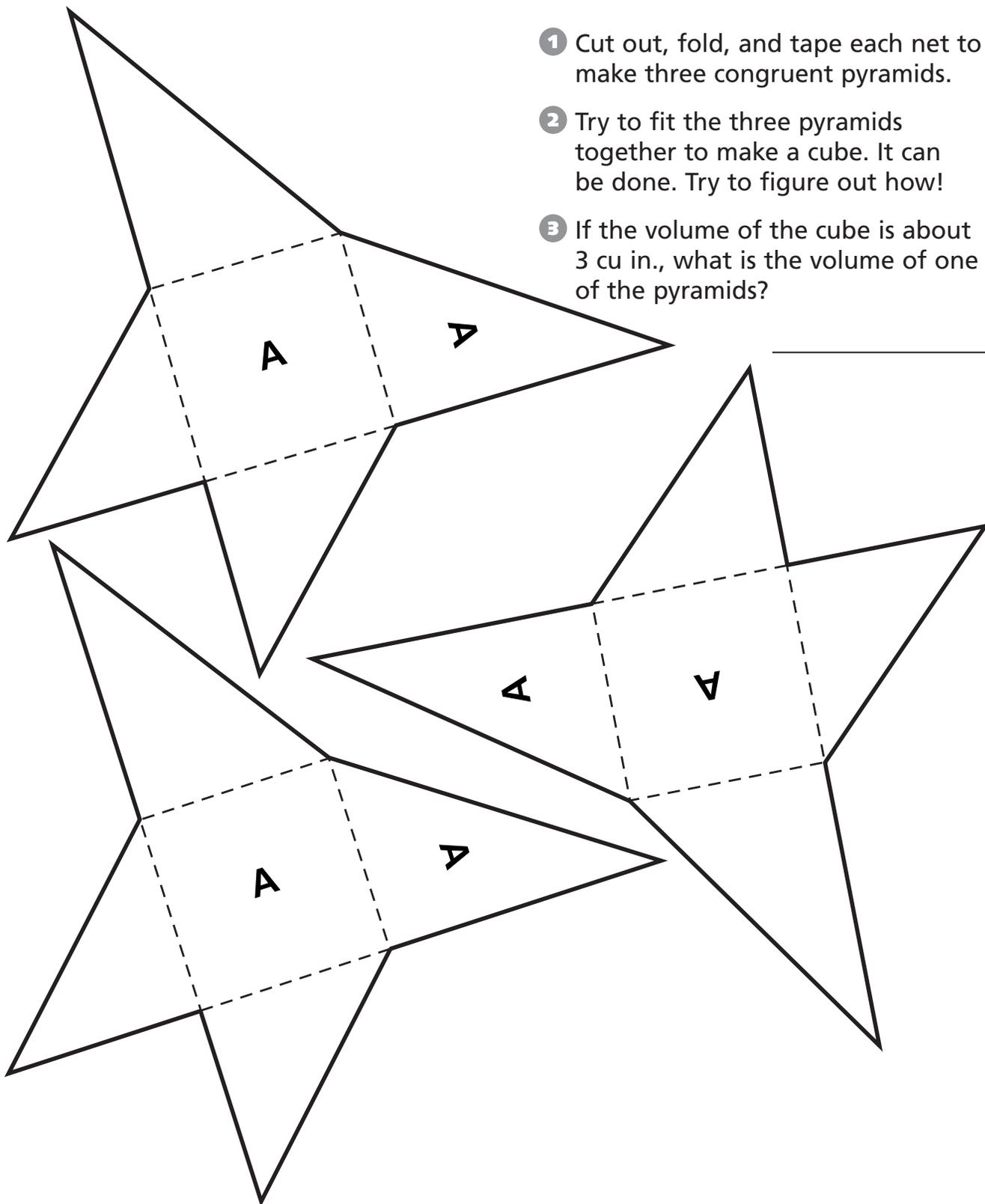


Transforming Two-Dimensional Nets into Three-Dimensional Figures

- 1 Cut out, fold, and tape each net to make three congruent pyramids.
- 2 Try to fit the three pyramids together to make a cube. It can be done. Try to figure out how!
- 3 If the volume of the cube is about 3 cu in., what is the volume of one of the pyramids?



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Describing Three-Dimensional Figures

1 Cut out the net and assemble the three-dimensional figure.

2 Complete the chart and the sentences.

Faces	
Vertices	
Edges	

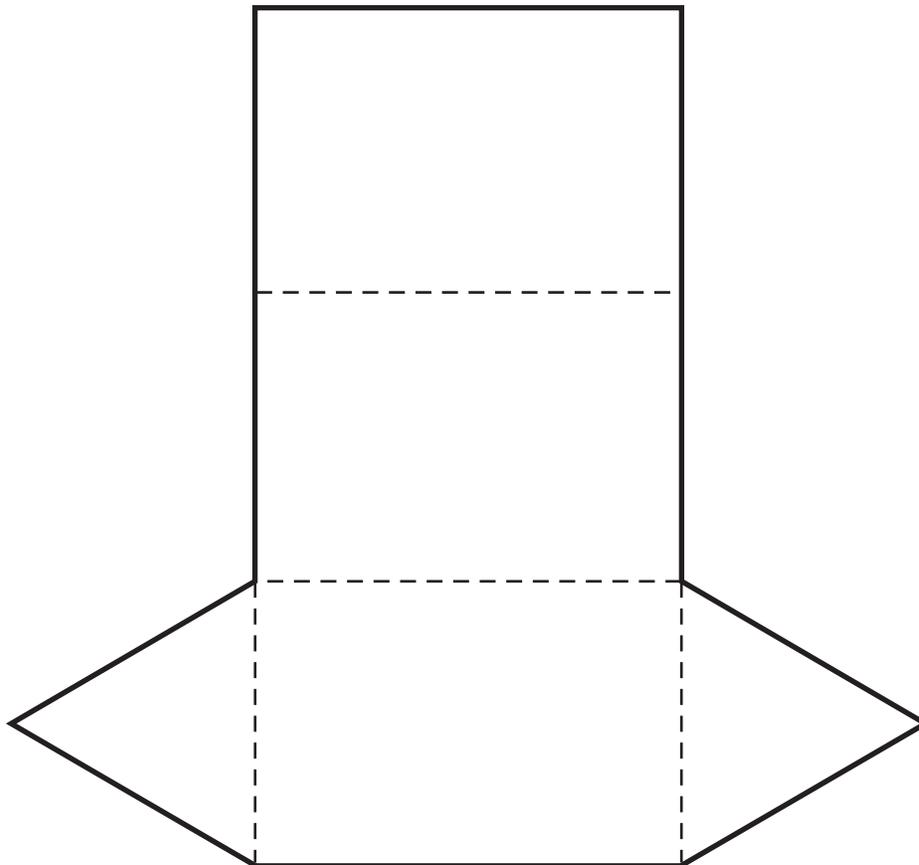
$F + V = \underline{\hspace{2cm}}$

$F + V - E = \underline{\hspace{2cm}}$



Test Prep

3 Write two different prime numbers.
Explain how you know the numbers are prime.



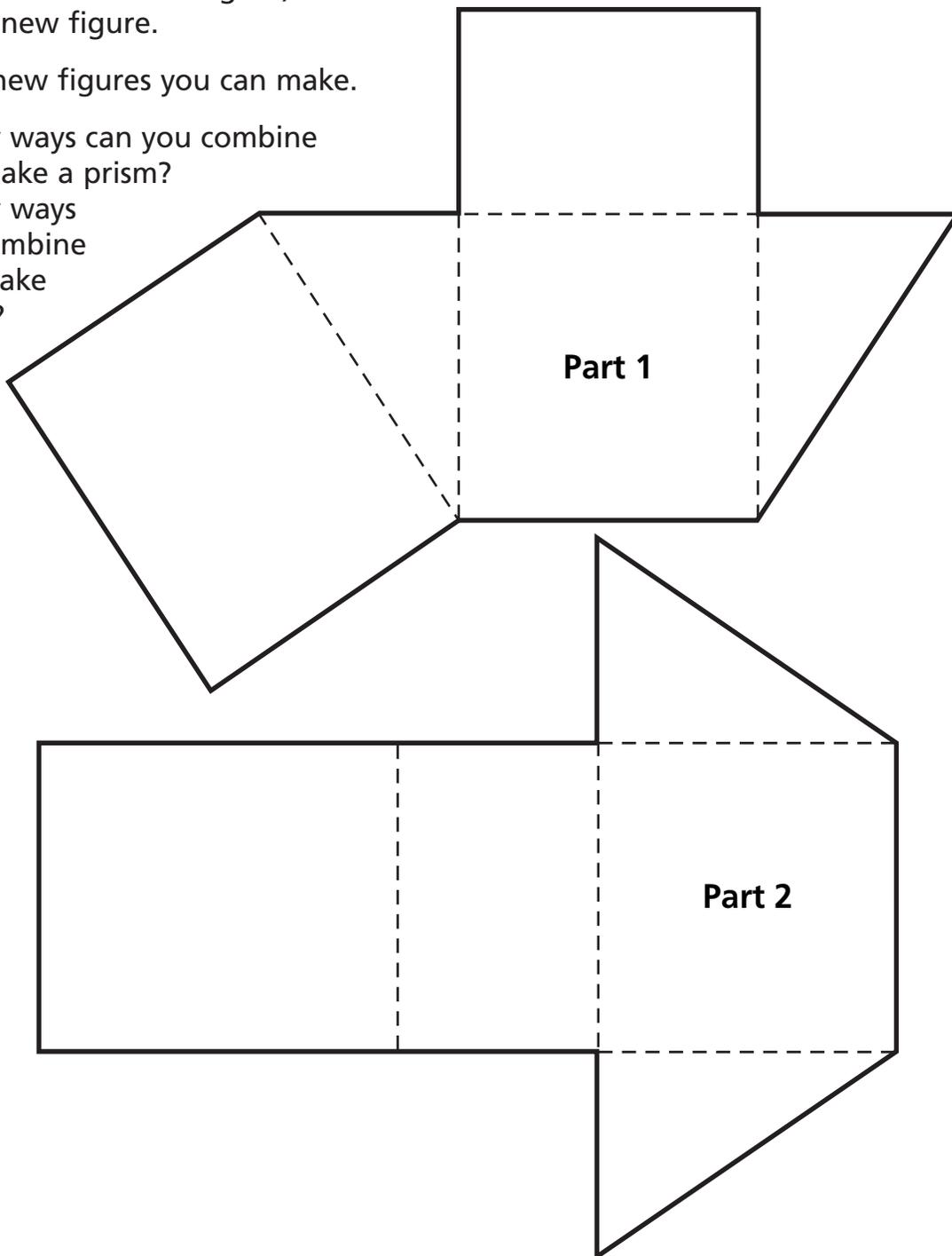
Sorting Three-Dimensional Figures

- 1 Cut out each net and fold it along the dotted lines to make a three-dimensional figure.
- 2 Fit these two figures together (by matching two congruent faces together, one from each figure) to make a new figure.

See what new figures you can make.

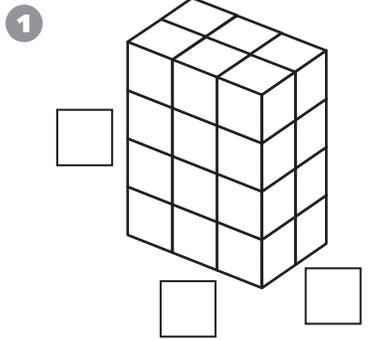
How many ways can you combine these to make a prism?

How many ways can you combine them to make a pyramid?

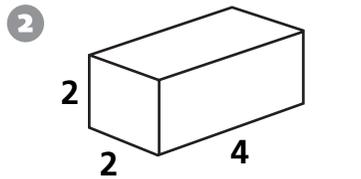


Volume of Rectangular Prisms

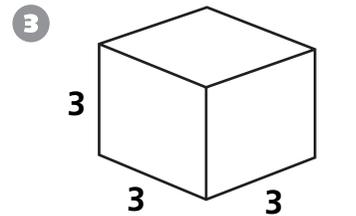
Find the area of the base and the volume of each of these rectangular prisms built out of centimeter cubes.



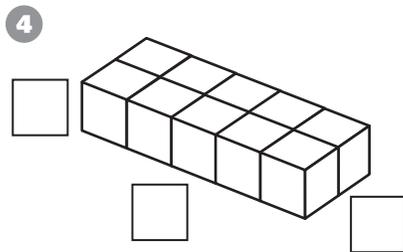
Area of base: _____ sq cm
Volume: _____ cu cm



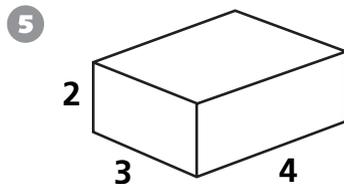
Area of base: _____
Volume: _____



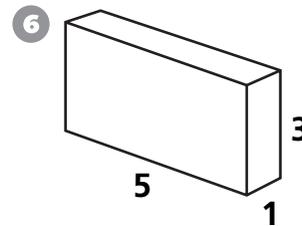
Area of base: _____
Volume: _____



Area of base: _____
Volume: _____



Area of base: _____
Volume: _____

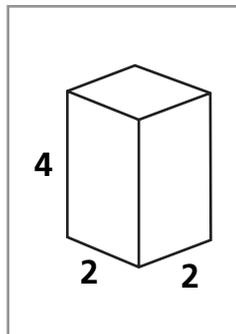


Area of base: _____
Volume: _____



Test Prep

- 7 Which of the following is NOT true about this rectangular prism?
- A. It has more vertices than faces.
 - B. It has 3 pairs of parallel faces.
 - C. Its volume is 8 cubic units.
 - D. It has 2 congruent, square faces.

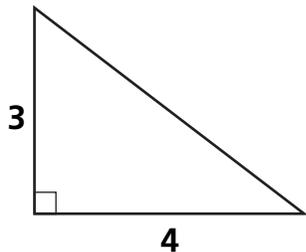


- 8 What is the area of the square base?
- A. 2 sq units
 - B. 4 sq units
 - C. 8 sq units
 - D. 16 sq units

Volume of Prisms

Each diagram shows the base of a triangular prism.
Use the dimensions to compute the volume.

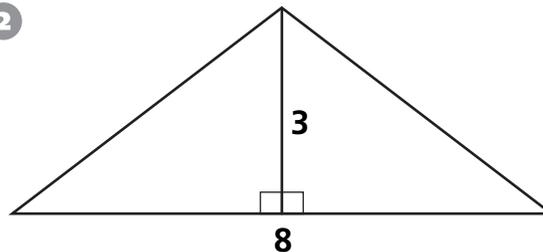
1



Height of Prism: 5

Volume: _____ cu units

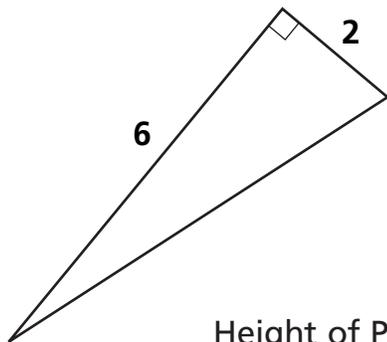
2



Height of Prism: 4

Volume: _____

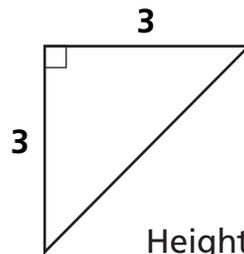
3



Height of Prism: 8

Volume: _____

4



Height of Prism: 5

Volume: _____



Test Prep

**The height of a triangular prism is 10 cm.
Its triangular base has a height of 4 cm and
a length of 6 cm.**

5 What is the area of the base?

- A. 12 sq cm
- B. 12 cu cm
- C. 24 sq cm
- D. 24 cu cm

6 What is the volume of the prism?

- A. 240 sq cm
- B. 240 cu cm
- C. 120 sq cm
- D. 120 cu cm

Area of Nets

The answers are given. Write questions to match.

Answers	Questions
1 Find the height of this two-dimensional figure and the length of its base, and then multiply those two numbers.	
2 Find the areas of all the faces and then add them up.	
3 It is a three-dimensional figure with a base that could be any polygon. All the other faces are triangles that meet at a common vertex.	
4 Find the height of this three-dimensional figure, and find the length and width of the rectangular base. Multiply those three numbers.	
5 Measure the base and height of this two-dimensional figure, multiply those two numbers, and then take half the result.	



Test Prep

- 6 How many edges does a rectangular prism have? Explain what an edge of a prism is.

Surface Area of Polyhedra

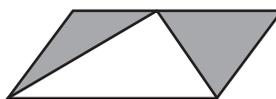
Puzzle it out.

Workspace

- 1 I am a rectangular prism.
 My volume is 30 cu cm.
 My shorter dimensions are 2 cm and 3 cm.

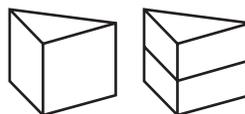
What is my longest dimension? _____

- 2 I am a triangle.
 A parallelogram whose base and height are the same as mine has an area of 9 sq in.



What is my area? _____

- 3 I am a triangular prism.
 My volume is 24 cu cm.
 My surface area is 60 sq cm.
 My height is 4 cm.
 I am cut into two congruent, triangular prisms, each 2 cm high.



What is the volume of each? _____

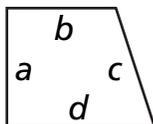
- 4 I am a trapezoid.
 My area is 5 sq cm.
 The lengths of my bases are 1 cm and 3 cm.

What is my height? _____



Test Prep

- 5 Mabel drew this trapezoid.



Which two line segments appear to be parallel?

- A. a and b C. a and d
 B. a and c D. b and d

Comparing Volume and Surface Area

Use Activity Master 110: Net J to help you complete this page.

1 What is the area of Net J? _____

2 Explain why the surface area of the three-dimensional figure you make from this net should be the same as the area of the net.

3 How many faces does the net have? _____

4 Explain why the number of faces on the three-dimensional figure will be the same as the number of faces on the net.

5 How many edges does the net have? _____

6 Explain why the number of edges on the three-dimensional figure will *not* be the same as the number of edges on the net.

7 How many vertices are on the net? _____

8 Explain why the number of vertices on the three-dimensional figure will *not* be the same as the number of vertices on the net.

NOTE: You can cut out the net and build the three-dimensional figure to help you answer the questions above.