

Name _____

Date _____

1. Use your centimeter cubes to build the figures pictured below on centimeter grid paper. Find the total volume of each figure you built, and explain how you counted the cubic units. Be sure to include units.

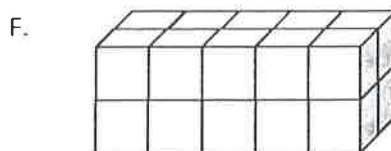
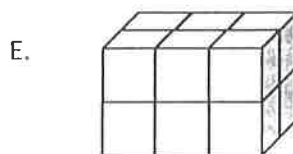
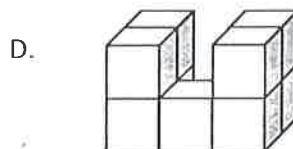
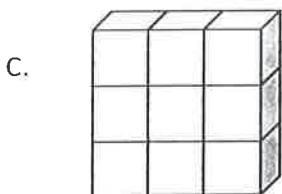
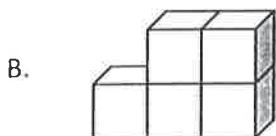
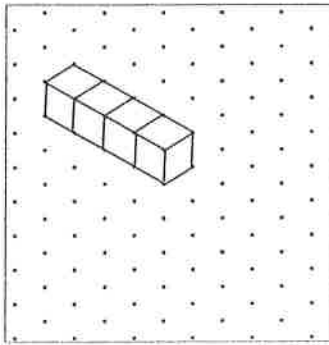


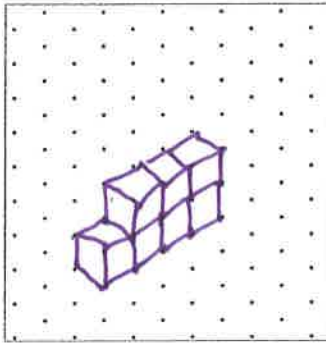
Figure	Volume	Explanation
A	1 cm ³	Counted one cube
B	5 cm ³	Added 3 cubes + 2 cubes
C	9 cm ³	Multiplied 3 layers by 3 cubes
D	9 cm ³	Add bottom layer 5 + top layer 4
E	12 cm ³	Bottom layer was 6 times 2
F	20 cm ³	5 × 2 × 2

2. Build 2 different structures with the following volumes using your unit cubes. Then, draw one of the figures on the dot paper. One example has been drawn for you.

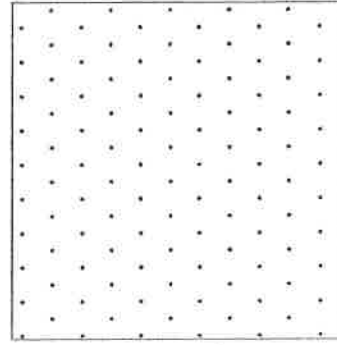
a. 4 cubic units



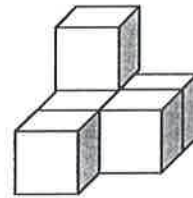
b. 7 cubic units



c. 8 cubic units



3. Joyce says that the figure below, made of 1 cm cubes, has a volume of 5 cubic centimeters.
- a. Explain her mistake.

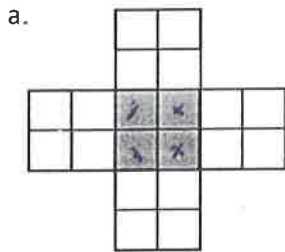


- b. Imagine if Joyce adds to the second layer so the cubes completely cover the first layer in the figure above. What would be the volume of the new structure? Explain how you know.

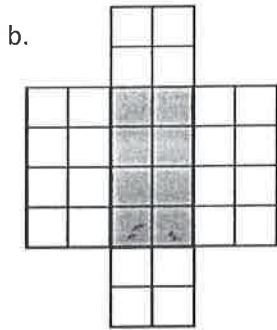
Name _____

Date _____

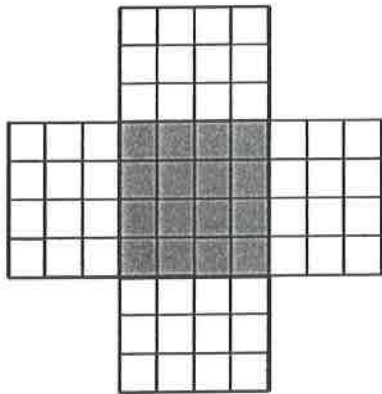
1. Shade the following figures on centimeter grid paper. Cut and fold each to make 3 open boxes, taping them so they hold their shapes. Pack each box with cubes. Write how many cubes fill each box.



Number of cubes: 8 cubes



Number of cubes: 16

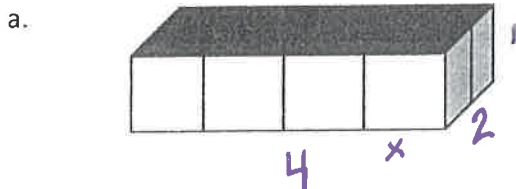


Number of cubes: 48

$$(4 \times 4) \times 3$$

$$16 \times 3$$

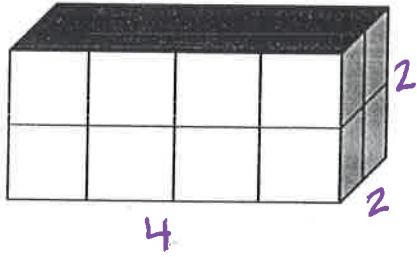
2. Predict how many centimeter cubes will fit in each box, and briefly explain your predictions. Use cubes to find the actual volume. (The figures are not drawn to scale.)



Prediction: _____

Actual: 8 cm³

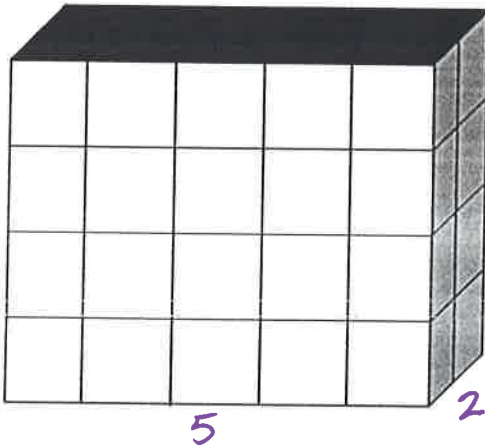
b.



Prediction: _____

Actual: 16 cm³

c.



Prediction: _____

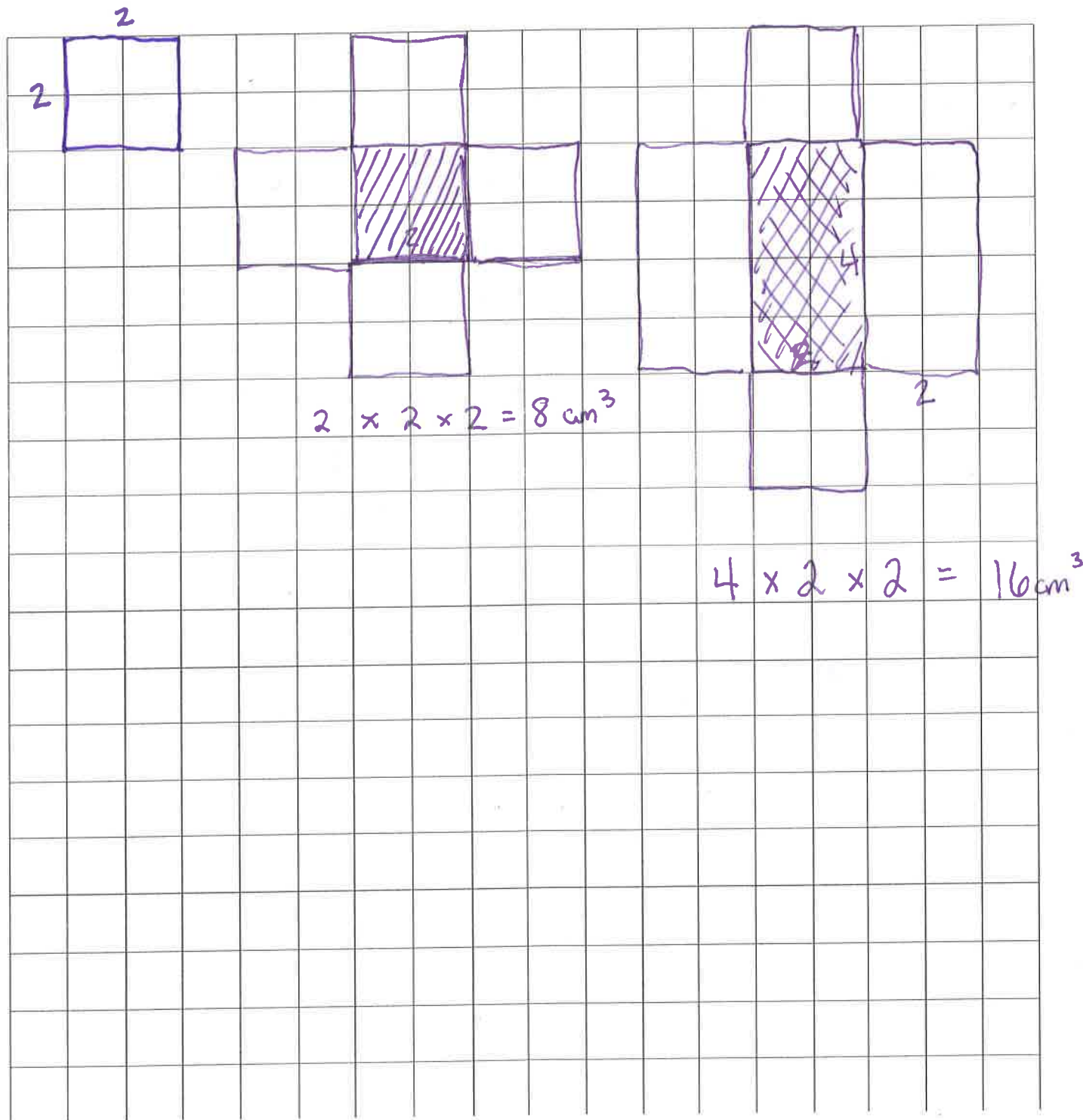
Actual: 40 cm³

3. Cut out the net in the template, and fold it into a cube. Predict the number of 1-centimeter cubes that would be required to fill it.

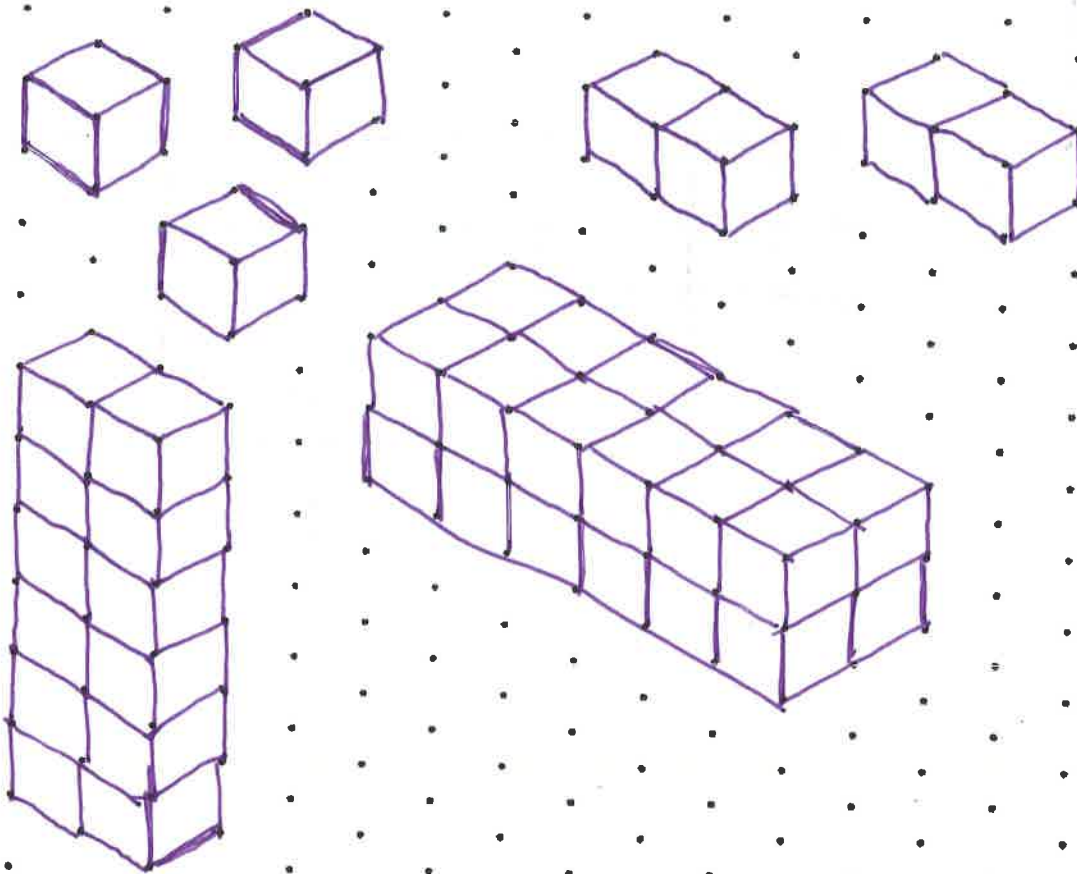
a. Prediction: _____

b. Explain your thought process as you made your prediction.

c. How many 1-centimeter cubes are used to fill the figure? Was your prediction accurate?



centimeter grid paper



isometric dot paper