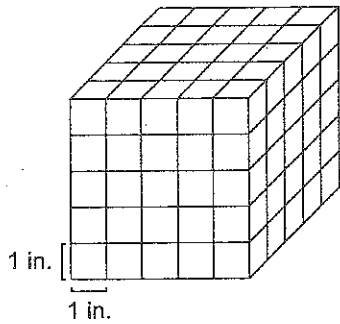


5.6A: Recognize a cube with side length of one unit as a unit cube having one cubic unit of volume and the volume of a three-dimensional figure as the number of unit cubes ( $n$  cubic units) needed to fill it with no gaps or overlaps if possible (Supporting Standard)

(5.1C; 5.1F; 5.1G)

1. Look at the rectangular prism below.

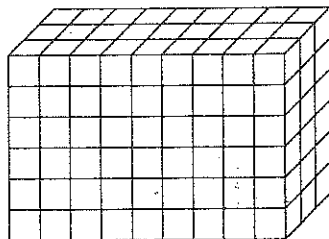


Which statement correctly explains how to find the volume of the prism?

- A Determine the total number of visible cubes within the figure without gaps or overlaps.
- B Determine the total number of cubes needed to fill the figure without gaps or overlaps.
- C Determine the total number of visible squares covering the figure without gaps or overlaps.
- D Determine the total number of squares needed to cover the figure without gaps or overlaps.

(5.1C; 5.1F)

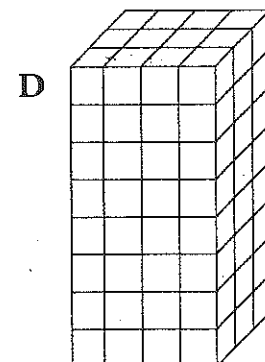
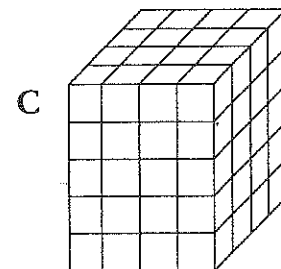
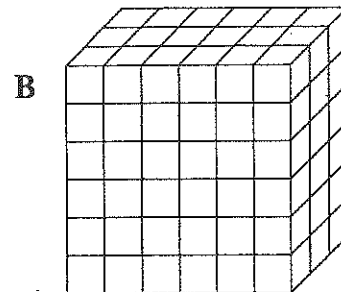
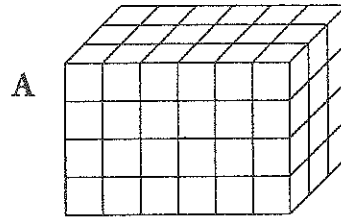
2. How many unit cubes are in the rectangular prism below?



- A 84
- B 99
- C 162
- D 180

(5.1C; 5.1F)

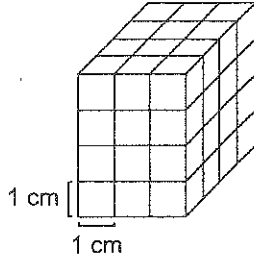
3. Shelby used 72 one-inch cubes to build a rectangular prism. Which figure below could be the one Shelby created?



5.6A: Recognize a cube with side length of one unit as a unit cube having one cubic unit of volume and the volume of a three-dimensional figure as the number of unit cubes ( $n$  cubic units) needed to fill it with no gaps or overlaps if possible (Supporting Standard)

(5.1C; 5.1F)

1. Look at the rectangular prism below.

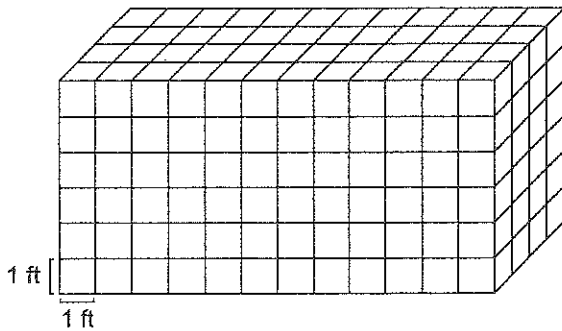


What is the volume of each unit cube within this figure?

- A 1 centimeter
- B 48 centimeters
- C 1 cubic centimeter
- D 48 cubic centimeters

(5.1A; 5.1C; 5.1F)

2. Mrs. Boone designed a shed for her backyard. A model of the shed is shown below.

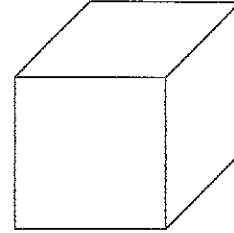


Which expression can be used to find the volume of Mrs. Boone's shed?

- A  $12 \times 4 \times 6$
- B  $12 + 4 + 6$
- C  $(6 \times 12) + (6 \times 4) + (12 \times 4)$
- D  $(6 + 12) \times (6 + 4) \times (12 + 4)$

(5.1C; 5.1F)

3. The volume of the cube below is 64 cubic feet.

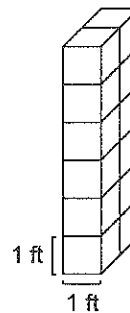


What are the dimensions of each unit cube used to find the volume of the figure?

- A 8 ft  $\times$  8 ft  $\times$  8 ft
- B 4 ft  $\times$  4 ft  $\times$  4 ft
- C 2 ft  $\times$  2 ft  $\times$  2 ft
- D 1 ft  $\times$  1 ft  $\times$  1 ft

(5.1C; 5.1F)

4. What is the volume of the figure below?

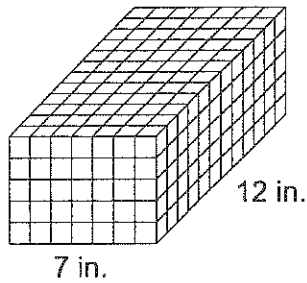


- A  $12 \text{ ft}^2$
- B  $12 \text{ ft}^3$
- C  $20 \text{ ft}^2$
- D  $20 \text{ ft}^3$

5.6B: Determine the volume of a rectangular prism with whole number side lengths in problems related to the number of layers times the number of unit cubes in the area of the base (Supporting Standard)

(5.1A; 5.1F)

1. The model below shows the dimensions of Emma's shoe bin.



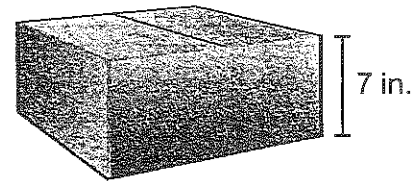
How many cubic inches can fit in Emma's bin?

Record your answer in the boxes. Then fill in the bubbles. Be sure to use the correct place value.

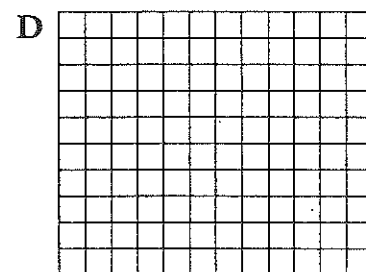
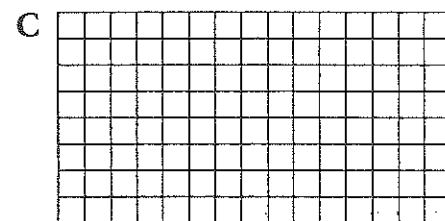
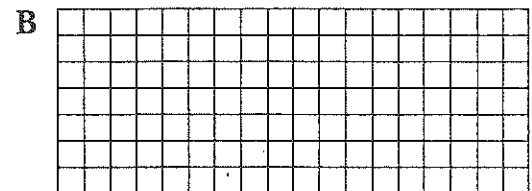
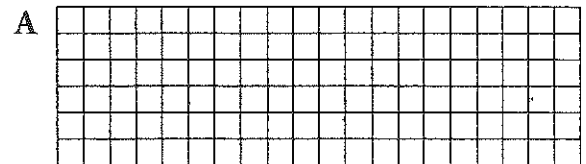
0	0	0		0
1	1	1		1
2	2	2		2
3	3	3		3
4	4	4		4
5	5	5		5
6	6	6		6
7	7	7		7
8	8	8		8
9	9	9		9

(5.1A; 5.1F)

2. Elisa wants to mail a rectangular package that has a volume of 840 cubic inches and a height of 7 inches, as shown below.



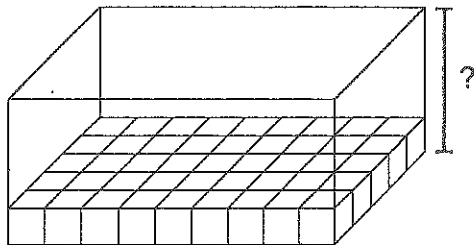
Each drawing could represent the base of Elisa's package EXCEPT—



5.6B: Determine the volume of a rectangular prism with whole number side lengths in problems related to the number of layers times the number of unit cubes in the area of the base (Supporting Standard)

(5.1C; 5.1F)

1. Look at the rectangular prism below.

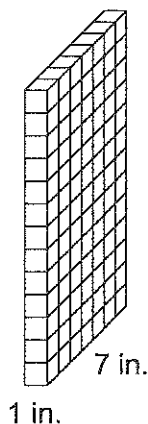


If the prism has a total volume of 180 cubic units, what is its height?

- A 2 units
- B 3 units
- C 4 units
- D 5 units

(5.1A; 5.1C; 5.1F)

2. The model below shows the dimensions of a smartphone case.

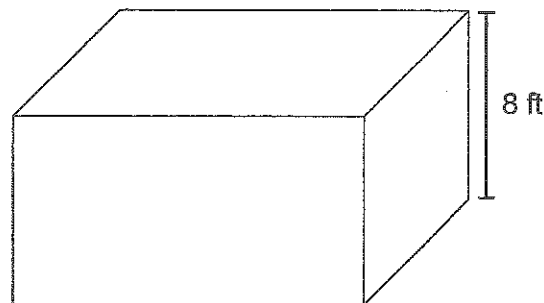


Which expression can be used to determine the volume of the smartphone case?

- A  $(1 + 7) + 13$
- B  $(1 + 7) \times 13$
- C  $(1 \times 7) + 13$
- D  $(1 \times 7) \times 13$

(5.1A; 5.1F)

3. A baseball dugout has a height of 8 feet and a volume of 1,080 cubic feet, as shown in the drawing below.



What could be the dimensions of the dugout floor?

- A 17 ft by 7 ft
- B 16 ft by 8 ft
- C 15 ft by 9 ft
- D 14 ft by 10 ft