Choose the correct answer.

1. Select the THREE sentences about the volume of this rectangular prism that are true.

   A. If each cube has edges of $\frac{1}{8}$ inch, the volume of the prism is $\frac{3}{16}$ cubic unit.
   B. If each cube has edges of $\frac{1}{6}$ inch, the volume of the prism is $\frac{4}{9}$ cubic unit.
   C. If each cube has edges of $\frac{1}{4}$ inch, the volume of the prism is $\frac{1}{4}$ cubic units.
   D. If each cube has edges of $\frac{1}{3}$ inch, the volume of the prism is $\frac{3}{5}$ cubic units.
   E. If each cube has edges of $\frac{1}{2}$ inch, the volume of the prism is 16 cubic units.

2. Select the TWO rectangular prisms that have the same volume.

   A. $l = 4\frac{1}{4}$ in., $w = 2\frac{3}{4}$ in., $h = 3$ in.
   B. $l = 3\frac{2}{3}$ in., $w = 2$ in., $h = 4\frac{1}{2}$ in.
   C. $B = 6\frac{1}{2}$ in., $b = 5\frac{3}{8}$ in.
   D. $B = 7\frac{3}{4}$ in., $b = 4\frac{1}{4}$ in.
   E. $l = 6$ in., $w = 1\frac{3}{8}$ in., $h = 4\frac{1}{4}$ in.

3. What is the volume of this rectangular prism?

   ![Rectangular Prism Diagram]

   A. $40\frac{2}{9}$ in.$^3$
   B. $46\frac{2}{9}$ in.$^3$
   C. $56\frac{8}{9}$ in.$^3$
   D. $92\frac{4}{9}$ in.$^3$

4. A trunk in the shape of a rectangular prism has a length of $3\frac{1}{2}$ feet, a width of $1\frac{3}{4}$ feet, and a height of $2\frac{1}{2}$ feet. What is the volume of the trunk?

   A. $6\frac{3}{16}$ ft$^3$
   B. $9\frac{5}{8}$ ft$^3$
   C. $12\frac{13}{16}$ ft$^3$
   D. $15\frac{5}{16}$ ft$^3$

5. The floor of a storage unit in the shape of a rectangular prism has an area of $106\frac{1}{4}$ square feet. The height of the storage unit is $7\frac{1}{2}$ feet. What is the volume of the storage unit?

   A. $742\frac{5}{8}$ ft$^3$
   B. $744\frac{1}{4}$ ft$^3$
   C. $795\frac{1}{4}$ ft$^3$
   D. $796\frac{7}{8}$ ft$^3$
6. What is the volume of a cube that has edges of \( \frac{3}{8} \) inch?
A. \( \frac{27}{512} \) in.\(^3\)
B. \( \frac{81}{256} \) in.\(^3\)
C. \( \frac{27}{64} \) in.\(^3\)
D. \( 1 \frac{1}{8} \) in.\(^3\)

7. What is the volume of this rectangular prism?

A. \( 129 \frac{3}{5} \) in.\(^3\)
B. \( 225 \frac{1}{4} \) in.\(^3\)
C. \( 259 \frac{1}{5} \) in.\(^3\)
D. \( 279 \frac{3}{5} \) in.\(^3\)

8. A rectangular prism has a volume of \( 45 \frac{9}{32} \) cubic inches. Its length is \( 4 \frac{1}{2} \) inches and its width is \( 2 \frac{7}{8} \) inches. What is the height of the rectangular prism?
A. \( 3 \frac{1}{2} \) in.
B. \( 3 \frac{3}{4} \) in.
C. \( 4 \frac{1}{2} \) in.
D. \( 5 \frac{1}{4} \) in.

9. By how many times does the volume of a rectangular prism increase when two of its dimensions are tripled?
A. 3
B. 6
C. 9
D. 27

10. What is the volume of this cube?

A. \( 7 \frac{1}{2} \) in.\(^3\)
B. \( 8 \frac{1}{8} \) in.\(^3\)
C. \( 12 \frac{1}{2} \) in.\(^3\)
D. \( 15 \frac{5}{8} \) in.\(^3\)

11. A box in the shape of a rectangular prism has a length of \( 4 \frac{1}{2} \) inches, a width of 3 inches, and a height of \( 3 \frac{1}{2} \) inches. How many cubes that have edges of \( \frac{1}{2} \) inch can fit into the box?
A. 189
B. 378
C. 567
D. 756
12. A rectangular prism made of $\frac{1}{4}$-inch cubes is shown.

What is the volume of the rectangular prism? Show your work and explain your answer.

13. Bret is going to place as many $2\frac{1}{2}$-inch cubes as he can inside the box shown.

How many cubes can fit inside the box? Show your work and explain your answer.
14. Chris and Yolanda each have boxes with a height of 9 inches. Chris's box has a $6\frac{1}{2}$-inch square base. Yolanda's box has a width of 5 inches. Their boxes have the same volume. What is the volume of each box? Show your work and explain your answer.

What is the length of Yolanda's box? Show your work and explain your answer.