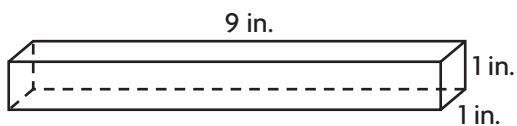


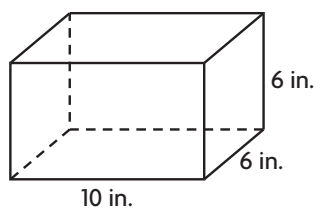
Box Factory

1. The *Fold-N-Go* box factory makes boxes that hold 1 candle. The boxes measure $1 \times 1 \times 9$ inches.



The factory owner makes a stack of 40 candle boxes. What is the volume of the stack? Show your work.

2. The factory owner asks Ella to design a new box. The box is a rectangular prism. Ella's design is shown below.



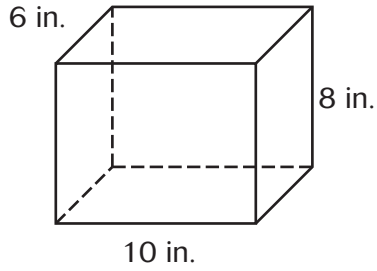
The factory owner discovers that 36 candle boxes will fit in Ella's new box. There is some space left over, but not enough for another candle box. He says that, because $36 < 40$, the volume of Ella's box must be less than the volume of the stack of 40 candle boxes.

- a. Is the owner correct? What is the volume of Ella's box? Show your work.

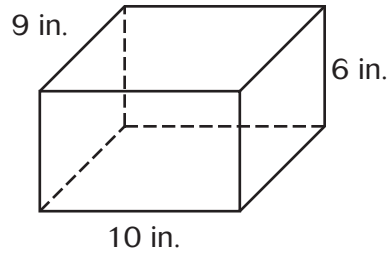
- b. Suggest a way that the owner could cut up the candle boxes so he could use them to measure the volume of Ella's box.

3. The factory owner needs a box that will hold 50 boxed candles. These are the three different boxes that can be used. Which box should the owner use? Explain your choice.

a.



b.



c.

