SECTION 14-6 Packaging

Putting your merchandise in containers for shipment is the last step in the production process. The size of the package depends on the size of the finished product.

**Dimensions: Length, Width, Height**

1. Barry Thigpen packs books for a local warehouse. A new edition of the Standard Dictionary is ready to be boxed for shipment. Each dictionary measures 11 inches by 8.5 inches by 4 inches. The carton for these dictionaries is \( \frac{1}{2} \)-inch thick. What are the dimensions of the carton if the dictionaries are laid flat, in 2 stacks of 6 dictionaries?

   What are the dimensions of the cartons if the dictionaries are arranged in only 1 stack of 8 dictionaries, also laid flat?

2. Action batteries are packed 36 to a carton. The carton is made of 0.6-centimeter-thick cardboard. There are no spaces. One battery measures 10 centimeters by 25 centimeters by 43 centimeters. What are the dimensions of the cartons if the batteries are arranged in 4 stacks of 9 batteries (stacked 1 by 4)?

   What are the dimensions of the cartons if the batteries are arranged in 2 stacks of 18 batteries?

3. You work for a crystal factory. A client ordered 240 goblets. You have to pack each goblet in individual boxes before placing them in containers for shipment. The measurement of each box is 3 inches by 6 inches by 6 inches. The shipping container is made of cardboard \( \frac{1}{8} \)-inch thick. No spacers are needed since each individual box is filled with foam shock absorbers. What are the dimensions of the containers if the boxes are arranged in 3 stacks of 10 boxes?

   How many containers would you need altogether for this shipment?

4. A popular beverage is sold in bottles with dimensions as shown. The bottles are packed 12 to a case for shipping (2 rows with 6 bottles per row). The case is made of \( \frac{1}{2} \)-inch thick corrugated cardboard with \( \frac{3}{8} \)-inch cardboard dividers. An extra layer of \( \frac{3}{8} \)-inch cardboard is placed on the bottom for a cushion. What are the dimensions of the case?