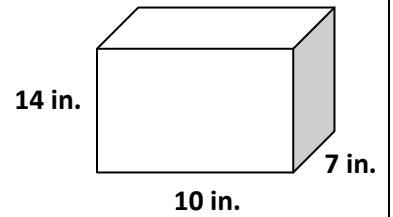


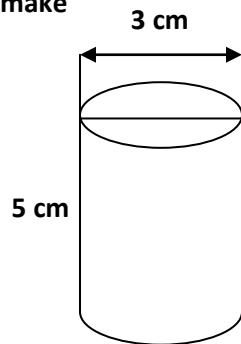
## Volume and Surface Area of Rectangular Prisms & Cylinders

1. The inside of a refrigerator in a medical laboratory measures 17 in by 18 in by 42 in. How many cubic inches can it hold?

2. A birthday gift is placed inside the box shown. What is the minimum amount of wrapping paper needed to wrap this gift?

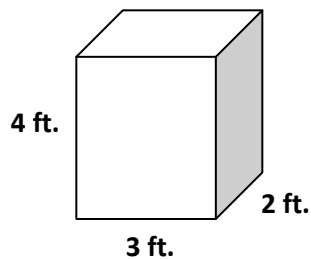


3. How much metal was used to make this can of soup?

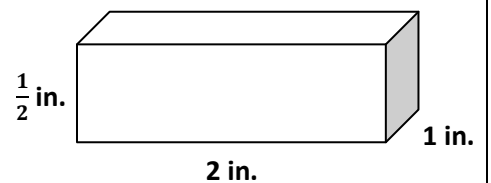


4. Refer to problem #3. When full, how much soup does the can contain?

5. Lawrence is donating some outgrown clothes to charity. How many cubic feet of clothes will fit in the box?



6. All sides of this wafer are to be covered in frosting. Calculate how much should be covered.



**7. Monique and Kiana want to give their friend a birthday present. They have put the present into a shoebox and now they want to wrap the box.**

**a.** How much wrapping paper will they need. If the shoebox is 1 foot long, 8 inches wide and 6 inches high? (*hint: must have the same units*)

**b.**How much paper if the shoebox is twice as long?

**c.** How much air does the empty shoebox hold?

**d.** How much air if the shoebox is twice as long?

**8. Ian bought a can of soup to give to his friend. Now he would like to wrap the can with paper.**

**a.** If the can has a circular base with a diameter of 4 inches, a height of 6 inches, how much wrapping paper will Ian need?

**b.**How much paper if the can is twice as tall?

**c.** How much soup will the can hold?

**d.** How much soup if the can is twice as tall?

**9.** A standard 20-gallon aquarium tank is a rectangular prism with length 24 in, width 12 in, and the height 20 in. Which side could you double, to increase the volume the most?

**10.** Plastic was used to make a rectangular prism-shaped container of baby food that is 2 in high, 1 in long, and 1.5 in wide. If you doubled each of the 3 sides, one at a time, which of the three new containers would use the least plastic?