

## Answer on Question #43985, Math, Geometry

An open tin box, 21 cm long, 9 cm wide, 8 cm high, is fitted with a thin lid which overlaps to a depth of 1 cm all round. What is the total area of tin sheeting used for the box and the lid?

### **Solution:**

Box is open so only base add to total area

Calculate square of base:  $(21 \times 9) = 189 \text{ cm}^2$

Then each size of base multiply on height  $(21+21+9+9) \times 8 = 480 \text{ cm}^2$

The area for the open box is base+square of each size =  $189+480=669 \text{ cm}^2$

Use the same strategy for lid:

The area for the lid will be  $(21+21+9+9) \times 1 + (21 \times 9) = 249 \text{ cm}^2$

Total area =  $918 \text{ cm}^2$

