

### Question #25957

A cuboid box of dimensions 20cm\*10cm\*8cm was made of cardboard. From the front face 2 circles of diameter 7 cm and a rectangle of 8 cm\*2 cm were cut out. Find total surface area of cuboid?

**Solution:** We find the total surface area of a cuboid box.

$$S = 2 \times (10 \times 8) + 2 \times (20 \times 8) + 2 \times (10 \times 20) = 160 + 320 + 400 = 880 \text{ cm}^2.$$

Now we find the area of the surfaces that were cut from the cuboid box:

$$S_1 = 3.14 \times (3.5)^2 = 38.465 \text{ cm}^2, \quad S_2 = 3.14 \times (3.5)^2 = 38.465 \text{ cm}^2,$$

$$S_3 = 8 \times 2 = 16 \text{ cm}^2.$$

Now we find the surface area that remained ( $S_r$ ):

$$S_r = S - S_1 - S_2 - S_3 = 880 - 38.465 - 38.465 - 16 = 787.07 \text{ cm}^2$$

**Answer:** 787.07  $\text{cm}^2$ .