

During vacation, two friends decided to visit Shimla. Due to peak days in Shimla, they did not get any room to stay in. So, they thought to buy a tent and set up in a park. They made a tent in the shape of a cone, whose diameter is 14 cm and height is 22 cm.



On the basis of the above information, solve the following questions:

Q1. How much volume of air is stored in a conical tent?

- a. 1140 cm^3
- b. 1132 cm^3
- c. 1129.33 cm^3
- d. 1134 cm^3

Q2. The slant height of a cone is:

- a. $\sqrt{521} \text{ cm}$
- b. $\sqrt{533} \text{ cm}$
- c. $2\sqrt{533} \text{ cm}$
- d. $\sqrt{537} \text{ cm}$

Q3. The base area covered by a conical tent is:

- a. 150 cm^2
- b. 153 cm^2
- c. 154 cm^2
- d. 159 cm^2

Q4. The curved surface area of a conical tent is:

(Use $\sqrt{533} = 23.09$)

- a. 508 cm^2
- b. 507.98 cm^2
- c. 509 cm^2
- d. 512 cm^2

Q5. If the cost of painting a tent is 50 paise per cm^2 , then the cost of painting the tent is (approximate):

Case Study on Surface Area of Cone :



A bakery installs a chimney in the form of a right circular cone with a base diameter of 2.4 meters and a vertical height of 3.2 meters. The cost of metallic sheet for the curved surface is ₹350 per square meter and for the circular base cover is ₹400 per square meter.

Answer the following questions based on above passage :

1. What is the radius of the base of the chimney?
2. Calculate the slant height of the chimney (upto two decimal places).
3. Find the curved surface area of the cone.
4. Calculate the total surface area of the chimney.
5. If the bakery wants to cover the curved surface and the base, what will be the total cost?