

(A)Case Study: Rangoli Competition in a Housing Society

In a housing society in Pune, a Rangoli competition was organised on the occasion of Diwali. Each participant was given a rectangular space in the society courtyard to make their rangoli.



The length of the rectangular space was 6 m and the breadth was 4 m.

To decorate the boundary, colourful lamps were placed along the edges of the rangoli space.

Questions

- Q1.** Find the perimeter of the rectangular space allotted to one participant. 1
- Q2.** Calculate the area of the rectangular space used for making the rangoli (for one participant) . 1
- Q3.** If lamps are placed at a distance of 1 m from each other along the boundary, how many lamps are required to decorate the rangoli space? (Assume one lamp is placed at each corner.) 2
- Q4.** If another participant is given a square-shaped space having the same perimeter as the rectangular space, find the area of the square. Which space has a larger area? Give reason. 3

(B) Case Study: Lunch Boxes in Meera's Class

Meera studies in a CBSE school in Chennai. During lunch break, her class teacher observed what students brought in their lunch boxes.



- Out of the 40 students in the class, $\frac{3}{8}$ of the students brought idli.
- $\frac{1}{4}$ of the students brought chapati sabzi.
- The remaining students brought rice dishes like lemon rice or curd rice.

The teacher asked the students to analyse the data using fractions.

Questions

- Q1.** Find the number of students who brought idli for lunch. 1
- Q2.** Calculate the number of students who brought chapati sabzi. 1
- Q3.** What fraction of students brought rice dishes? Also, find the number of such students. 3
- Q4.** Compare the fractions of students who brought idli and chapati sabzi. Which group is larger and by how much? (Express the difference as a fraction.) 2