



Laying the foundation of lifelong success

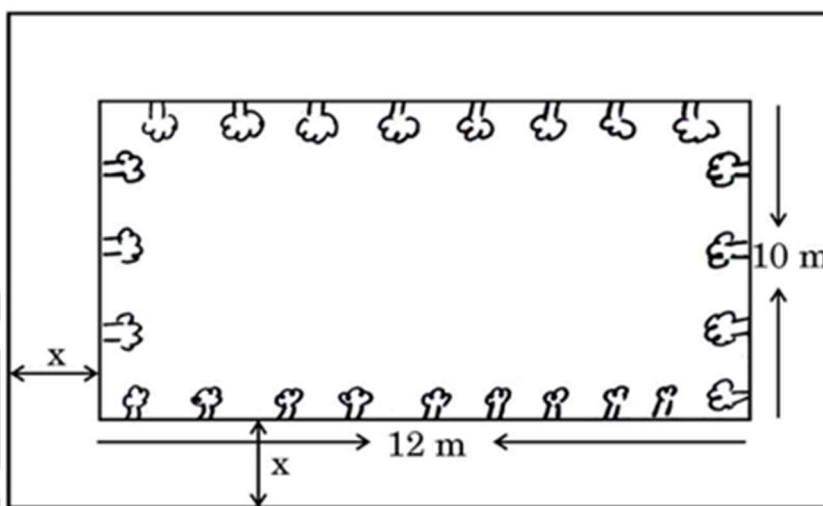
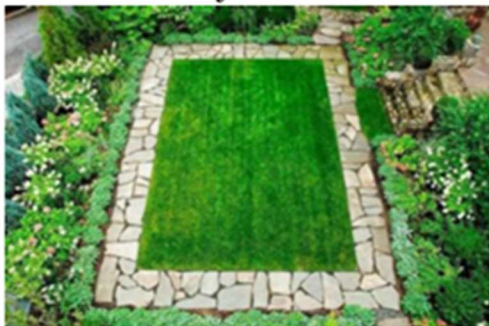
CHAPTER 4

Quadratic Equations

(Previous Years' Questions)

Case – Study Based

1. A garden designer is planning a rectangular lawn that is to be surrounded by a uniform walkway.



The total area of the lawn and the walkway is 360 square metres. The width of the walkway is same on all sides. The dimensions of the lawn itself are 12 metres by 10 metres.

Based on the information given above, answer the following questions:

- (i) Formulate the quadratic equation representing the total area of the lawn and the walkway, taking width of walkway = x m.

1

(ii) (a) Solve the quadratic equation to find the width of the walkway ' x '. 2

OR

(ii) (b) If the cost of paving the walkway at the rate of ₹ 50 per square metre is ₹ 12,000, calculate the area of the walkway. 2

(iii) Find the perimeter of the lawn. 1

(2025)

2. A rectangular floor area can be completely tiled with 200 square tiles. If the side length of each tile is increased by 1 unit, it would take only 128 tiles to cover the floor.



- (i) Assuming the original length of each side of a tile be x units, make a quadratic equation from the above information. 1
- (ii) Write the corresponding quadratic equation in standard form. 1

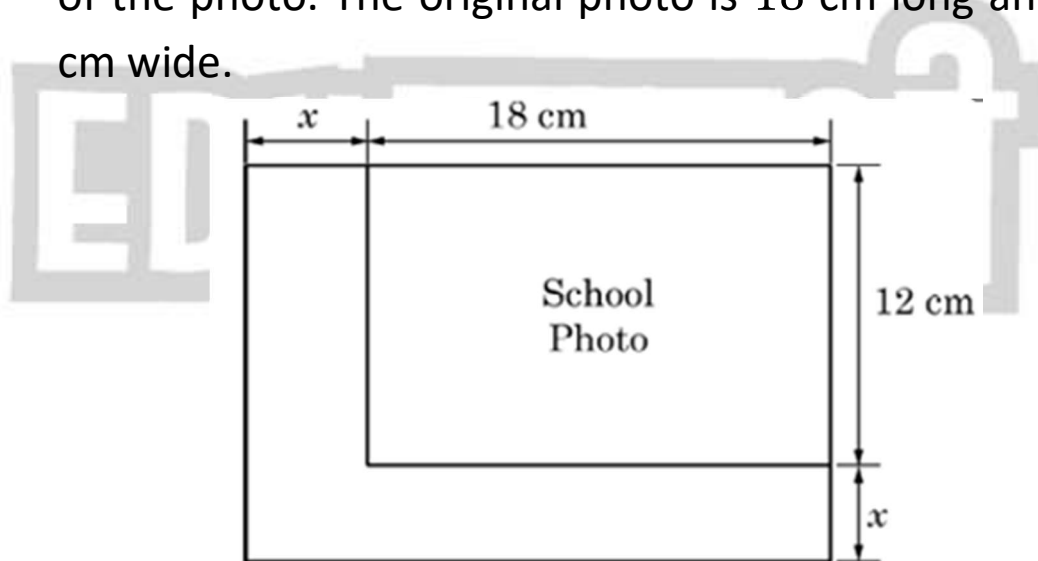
(iii) (a) Find the value of x , the length of side of a tile by factorisation. 2

OR

(b) Solve the quadratic equation for x , using quadratic formula. 2

(2024)

3. While designing the school year book, a teacher asked the student that the length and width of a particular photo is increased by x units each to double the area of the photo. The original photo is 18 cm long and 12 cm wide.



Based on the above information, answer the following questions:

- (i) Write an algebraic equation depicting the above information. 1
- (ii) Write the corresponding quadratic equation in standard form. 1

(iii) (a) What should be the new dimensions of the enlarged photo? 2

OR

(b) Can any rational value of x make the new area equal to 220 cm^2 ? 2

(2023)

