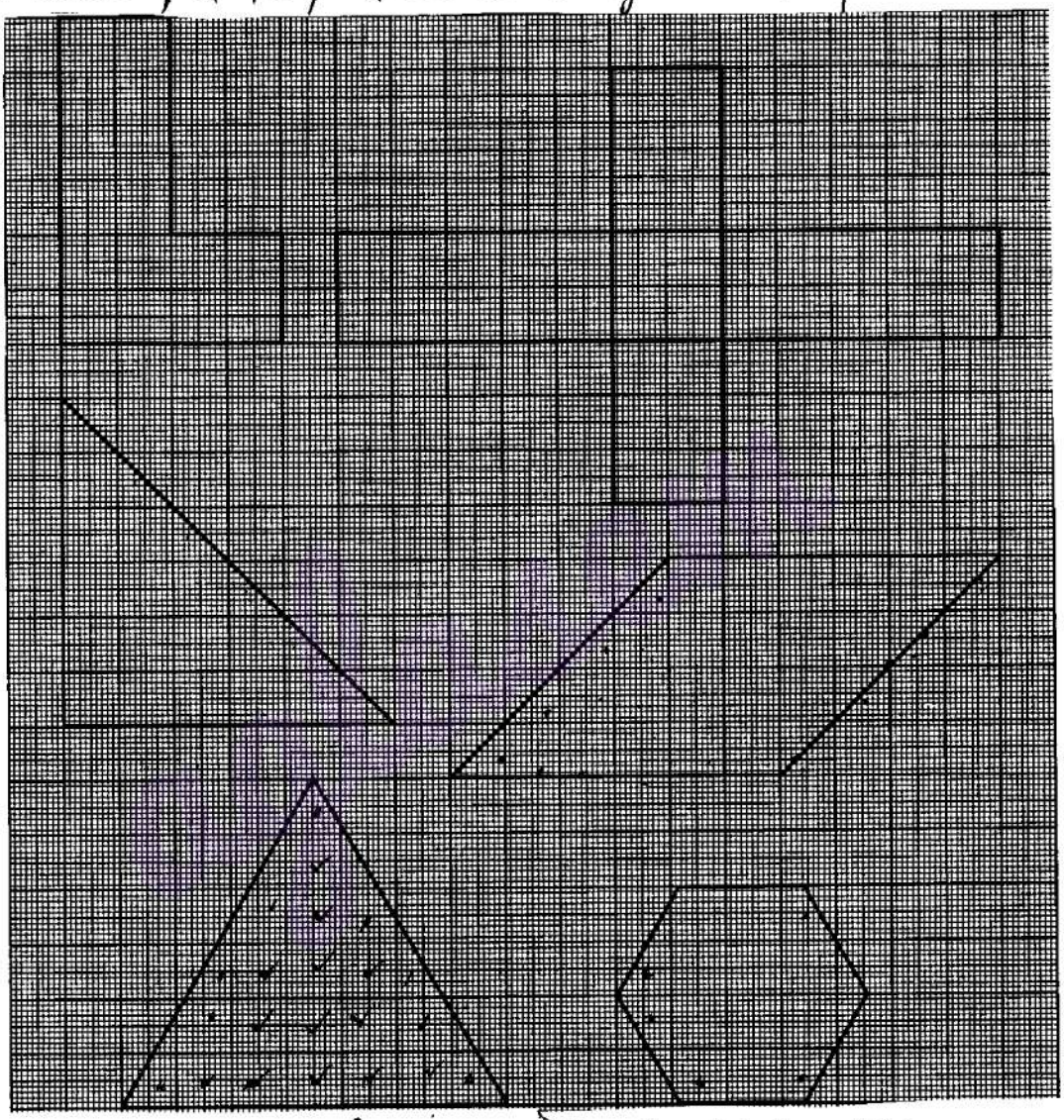
Exercise 203

Q.1 The following figures are drawn on a squared paper. Count the number of squares enclosed by each figure and find its area, taking the area of each square as $1 cm^2$.



Solution (i) figure (i) having 16 complete squares,

therefore, Area = $16 \times 1 = 16 cm^2$

(ii) Figure (ii) having 36 complete squares, hence

Area = $36 \times 1 = 36 cm^2$

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(iii) Figure (iii) having 15 complete squares, 6 half squares

$$\text{Area} = \left(15 \times 1 + 6 \times \frac{1}{2}\right) \text{cm}^2$$

$$= 15 + 3 = 18 \text{ cm}^2$$

(iv) Figure (iv) having 20 complete squares, 8 half squares,

Then $$\text{Area} = \left(20 \times 1 + 8 \times \frac{1}{2}\right) \text{cm}^2$$

$$= 20 + 4 = 24 \text{ cm}^2$$

(v) Figure (v) having 13 complete squares, 9 more than half squares, 4 less than half squares, hence

$$\text{Area} = \left(13 \times 1 + 9 \times \frac{1}{2}\right)$$

$$= 13 + 4.5 = 17.5 \text{ cm}^2$$

(vi) Figure (vi) having 9 complete squares, 5 more than half squares and 4 less than half squares, then

$$\text{Area} = \left(9 \times 1 + 4 \times \frac{1}{2} + 5\right).$$

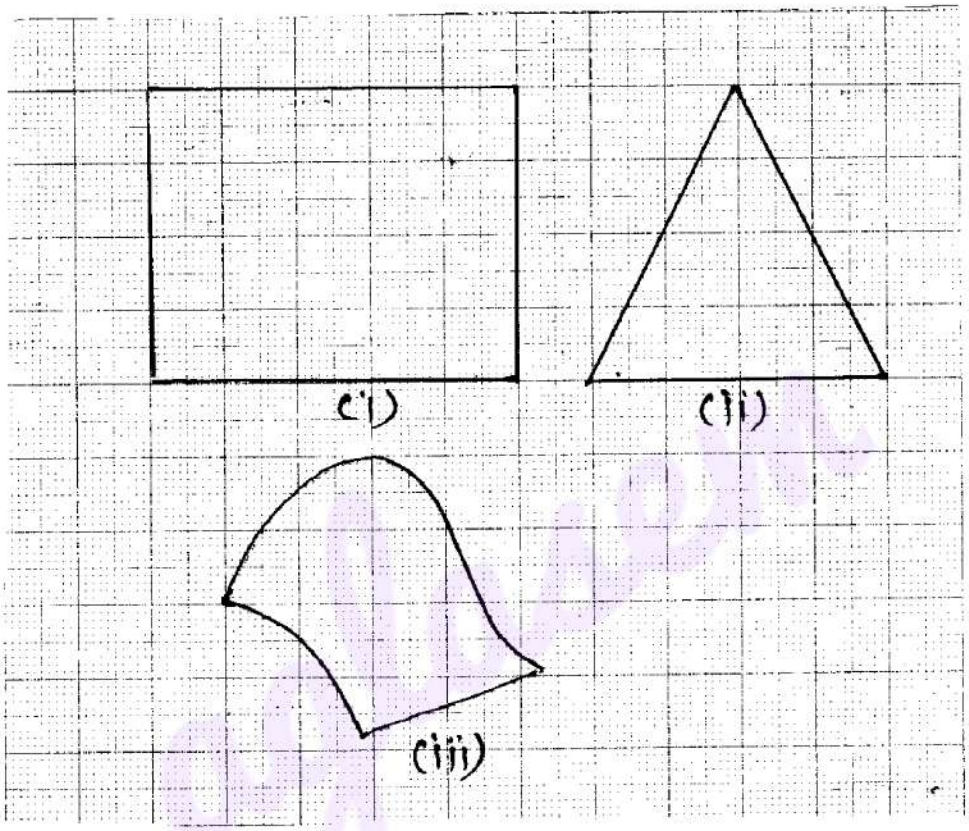
$$= (9 + 2 + 5) = 16 \text{ cm}^2$$

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Q.2 on a squared paper, draw (i) a Rectangle, (ii) a triangle (iii) any Irregular closed figure. Find the approximate area of each by counting the number of squares complete, more than half and exactly half.

Solution:



In fig (i), there are 20 complete squares, therefore

$$\text{Area} = 20 \times 1 \text{ cm}^2 = 20 \text{ cm}^2$$

In fig (ii), there are 4 complete squares, 4 more than half squares, 4 less than half squares, then

$$\text{Area} = 4 \times 1 + 4 \times 1 = 4 + 4 = 8 \text{ cm}^2$$

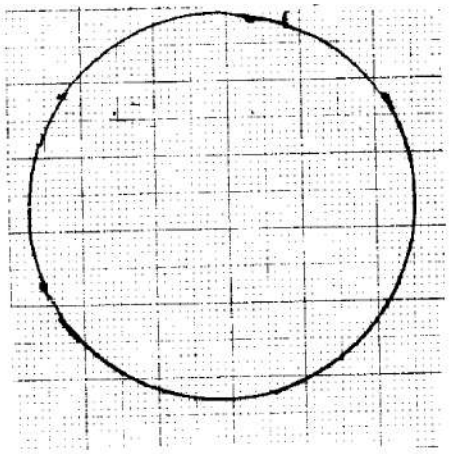
In fig (iii), there are 3 complete squares, 6 more than half squares, then area $= (3 \times 1) + (6 \times 1)$

$$= 3 + 6 = 9 \text{ cm}^2$$

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Q3 Draw any circle on the graph paper. Count the squares and use them to estimate the area of circular region.



Solution: Here, no. of complete squares
= 14

No. of more than half squares
= 7

∴ Area = (14×1) + (7×1)
= 14+7 = 21 cm²

Q4 This question is Activity based, Students are advised to solve it by themselves.

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