

Instructions for students: The notes provided must be copied to the Maths copy and then do the homework in the same copy.

Class 7-Mathematics

Chapter 16

PERIMETER AND AREA

Area of a parallelogram = base × height

Area of a triangle = $\frac{1}{2} \times \text{base} \times \text{height}$

Exercise 16.2

Question 6.Solution:

$$\begin{aligned} \text{i) Area of triangle ABC} &= \frac{1}{2} \times \text{base} \times \text{height} \\ &= \frac{1}{2} \times 9 \times 6 = 27 \text{ cm}^2 \\ \text{ii) } \frac{1}{2} \times \text{base} \times \text{height} &= 27 \text{ cm}^2 \\ \frac{1}{2} \times \text{AB} \times \text{CE} &= 27 \\ \frac{1}{2} \times 7.5 \times \text{CE} &= 27 \\ \text{CE} &= \frac{27 \times 2}{7.5} = 7.2 \text{ cm} \end{aligned}$$

Question 7.Solution:

$$\begin{aligned} \text{Hypotenuse} &= 17 \text{ cm} \\ \text{Base} &= 8 \text{ cm} \\ h^2 &= b^2 + p^2 \quad (\text{Pythagoras theorem}) \\ 17^2 &= 8^2 + p^2 \\ 289 &= 64 + p^2 \\ p^2 &= 225 \\ \text{P(height)} &= 15 \text{ cm} \\ \text{Area of triangle} &= \frac{1}{2} \times \text{base} \times \text{height} \\ &= \frac{1}{2} \times 8 \times 15 = 60 \text{ cm}^2 \end{aligned}$$

Home work: Solve Exercise 16.2 Questions 3,4, 9,10 in the maths copy.

Practise Exercise 16.2 all problems.

MATHS PRACTICAL

Points to remember .

**Read and understand the experiment.*

**In the Maths Practical Copy write down AIM, MATERIAL REQUIRED , METHODOLOGY , TABULAR COLUMN and CONCLUSION on the ruled page. DIAGRAM and CALCULATION on the plane page.*

**Follow the PROCEDURE properly to get the correct conclusion.*

**MATHS PRACTICAL COPY must be a soft cover Lab copy with atleast 50 to 60 pages.*

EXPERIMENT NO.4

AIM: To make a general result of number of line segments that can be made by connecting points in pairs when 'n' distinct non collinear points are given in a plane.

MATERIAL REQUIRED : Ruler , Pencil

METHODOLOGY : Observe the pattern of 'number of line segments' in the observation table .

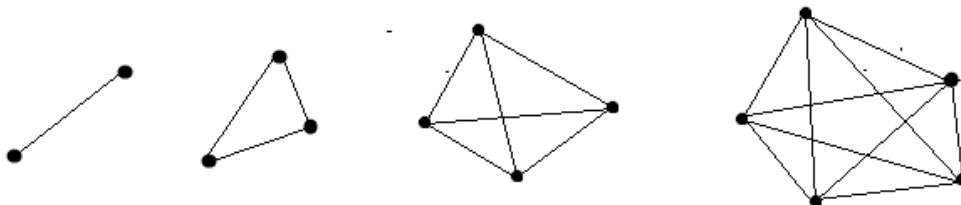
PROCEDURE : Follow all the steps below in order

Step 1. Mark 2 points in a page and join them , also count the number of line segments so formed.

Step 2. Mark 3 non collinear points in a page and join them pair wise so that line segments are formed . Count the number of line segments so formed.

Step 3. Repeat step2 with non collinear points 4 , 5 ,6 , 7 etc .

Step 4. Observe the pattern in number of line segments and generalize it for 'n' non collinear points.



OBSERVATION TABLE

Trial	Number of points	Number of line segments	Pattern
1	2		
2	3		
3	4		
4	5		
5	6		
6	7		

CONCLUSION

The number of line segments that can be made , when 'n' distinct non collinear points are given=- _____

