

Board – CBSE

Class – 9

Topic – Euclid's Geometry

## Multiple Choice Question Type

- How many straight lines can be drawn through two given lines?  
(A) None (B) Only one  
(C) Two (D) Three
- What is the minimum number of lines required to make a closed figure?  
(A) One (B) Two  
(C) Three (D) Four
- Which of the following is an axiom?  
(A) Theorems (B) The universal truth in all branches of Mathematics  
(C) Definitions (D) Universal truth specific to geometry
- How many dimension does a surface has?  
(A) One (B) Two  
(C) Three (D) Four
- A solid has how many dimensions?  
(A) One (B) Two  
(C) Three (D) Four
- What do you call a figure formed by two straight lines having a common point?  
(A) Angle (B) Triangle  
(C) Rhombus (D) Kite
- How many lines can pass through one point?  
(A) One (B) Two  
(C) Three (D) Four
- Which of the following are boundaries of a surface?  
(A) Lines (B) Curves  
(C) Surfaces (D) Points

## ANSWERS

- B
- C
- B

- 4. B
- 5. C
- 6. A
- 7. A
- 8. B

## Long answer Type

1. What is a closed figure formed by three line segments called?
2. Explain Euclid's fifth postulate.
3. Prove that an equilateral triangle can be constructed on any given line segment.
4. How can you prove that two different lines can't have more than one point in common?
5. What is Euclid's second axiom?
6. What do you understand by a theorem?
7. In how many chapters Euclid divided his famous treatise, "The elements"
8. If P, Q and R are three points on a line, and Q lies between P and R, then prove that  $PQ + QR = PR$ .
9. If a point R lies between two points P and Q such that  $PR = QR$ , then prove that  $PR = \frac{1}{2}PQ$ .
10. If B and C are two points between A and D such that  $AC = BD$ , then prove that  $AB = CD$ .
11. What is Euclid's fifth postulate?
12. How many dimension does a solid has?
13. What do you call a figure formed by three line segments?
14. What is a minimum number of lines required to make a closed figure?
15. If B lies between A and C,  $AC = 12\text{cm}$  and  $BC = 9\text{cm}$ . what is  $AB$ ?
16. Define angle, vertex and congruent lines.
17. Given three collinear points A, B, C. Name all the line segments, enclosed.
18. Prove that an equilateral line segment can be constructed on any given line segment.
19. If  $AB = PQ$  and  $PQ = XY$  then is  $AB = XY$  too?
20. Prove that two distinct lines cannot have more than one point in common.
21. What is the measure of an angle which is  $25^\circ$  more than its compliment?
22. If  $AB = x + 3$ ,  $BC = 2x$  and  $AC = 4x - 5$ , then what will be the measure of x, if B lies on AC?
23. Line segment  $PQ = 12\text{cm}$  and R is a point on it such that  $PR = 8\text{cm}$ . Then find  $PQ^2 - PR^2$ .

24. Line PQ is such that it acts as a transversal for two non-parallel, non-intersecting lines AB and CD such that  $\angle APQ + \angle PQC < 180$ . So, lines AB and CD, if produced will intersect on the left of PQ. This is an example of which postulate of Euclid?