

Introduction to Euclid's Geometry

MATHEMATICAL REASONING

1. If a point C lies between A and B, then AC + BC= ____.

(a) 2 <i>AB</i>	(b) <i>AB</i>
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(c) 26C	$(d)\frac{1}{2}AB$
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- 2. Euclid's Postulate 1 is (a) A straight line may be drawn from any point to any other point. (b) A terminated line can be produced indefinitely.
 - (c) All right angles are equal to one another.
 - (d) None of these
- 3. A solid has . (a) 0 dimension (b) 1 dimension (c) 2 dimensions (d) 3 dimensions
- If C be the mid-point of a line segment AB, then 4. AC = BC = ()AB.
 - (b) $\frac{1}{2}$ (a) 3 $(d)\frac{1}{4}$ (c) 2
- Two distinct intersecting lines cannot be parallel 5. to the line. (a) Same (b) Different
 - (c) Both (a) and (b) (d) None of these
- 6. Which of the following options has one fixed end point and can be extended in the other direction indefinitely? (a) A rau (h) A line

(a) A lay	(0) A line
(c) A line segment	(d) All of these

7. Which of the following is a false statement? (a) An infinite number of lines through a given point. (b) A unique line can be drawn to pass through

two given points.

- (c) Ray $\overrightarrow{AB} = ray \overrightarrow{BA}$.
- (d) A ray has one end point.
- 8. Things which are equal to the same thing are to one another. (a) perpendicular (b) not equal (c) equal (d) parallel

9.	According to Euclid's axi than the part. (a) half (c) whole	ioms, the is greater (b) large (d) None of these
10.	Which of the following is (a) The whole is greater to (b) Things which are do are equal to one another (c) Thing which are halve equal to one another. (d) If two things are equal to $\frac{1}{3}$ of the one thing.	not a Euclid's axiom? than the part. puble of the same things : es of the same things are I, then their sum is equal

- 11. According to Euclid, a surface has (a) Length but no breadth and thickness (b) Length and breadth but no thickness (c) No length, no breadth and no thickness (d) Length, breadth and thickness
- 12. If a straight line falling on two straight lines makes the interior angles on the same side of it taken together less than two right angles, then the two straight lines, if produced indefinitely, meet on that side on which the sum of angles is two right angles.
 - (a) Equal to
 - (b) More than
 - (c) Less than
 - (d) Can't be determined
- 13. Find the number of dimension(s) a line has. (a) 0 (b) 1 (d) 3 (c) 2
- In the given figure, if AC = BD, then_____. 14.



- 15. Euclid stated that 'all right angles are equal to one another', in the form of (b) a definition (a) an axiom (c) a postulate (d) a proof
- 16. A surface has (a) 0 dimension (b) 1 dimension (c) 2 dimensions (d) 3 dimensions

- 18. Rectilinear figure is formed by _____.
 (a) Planes (b) Points
 (c) Straight lines (d) None of these
- **19.** In the given figure PR = QS then which of the following axioms shows that PQ = RS?

(a) The whole is greater than the part.

(b) If equals are subtracted from equals, the remainders are equal.

(c) Things which are equal to the same things are equal to one another.

(d) None of these

(c) a postulate

20. Which of the following needs a proof?

- (a) an axiom (b) a definition
 - (d) a theorem

ACHIEVERS SECTION (HOTS)

21. Which of the following statements is CORRECT?(a) There exist only one circle with centre at a given point.

(b) There exist a point through which no line can pass.

(c) Two parallel lines can-not have a common point.

- (d) All of these
- **22.** Fill in the blanks.

(i) Two lines in a plane not having any point common are called $\underline{\mathbf{P}}$ lines.

- (ii) The edges of a surface are $\underline{\mathbf{Q}}$.
- (iii) Two distinct planes can intersect at $\underline{\boldsymbol{R}}$ points.
- (iv) $\underline{\mathbf{S}}$ planes can pass through two distinct points.

	Р	Q	R	S
(a)	Parallel	lines	infinite	infinite
(b)	Parallel	planes	one	one
(c)	Perpendicular	lines	one	zero
(d)	Perpendicular	planes	infinite	infinite

23. State T for true and 'F' for false.

(i) There are infinite points on a line' is an Euclidean postulate.

(ii) Only one plane passes through three non-collinear points.

(iii) Boundaries of solids are surfaces.

	(i)	(ii)	(iii)
(a)	F	F	F
(b)	Т	Т	F
(c)	Т	F	Т
(d)	F	Т	Т

24. Match the following.

	Column-I		Column-II
Ρ.	All right angles are equal to	(i)	postulate-2
	one another		
Q.	A terminated line can be produced indefinitely.	(ii)	postulate-3
R.	A circle can be drawn with any centre and any radius.	(iii)	postulate-1

 $\begin{array}{l} (a) \ p \rightarrow (iv); Q \rightarrow (iii); R \rightarrow (i) S \rightarrow (ii) \\ (b) \ p \rightarrow (ii); Q \rightarrow (iv); R \rightarrow (i) S \rightarrow (iii) \\ (c) \ p \rightarrow (iv); Q \rightarrow (i); R \rightarrow (ii) S \rightarrow (iii) \\ (d) \ p \rightarrow (iii); Q \rightarrow (i); R \rightarrow (ii) S \rightarrow (iv) \end{array}$

25. Which of the following statements is CORRECT?
(a) For every line *l* and for every point P not lying on *l*, there exist a unique line m passing through P and parallel to *l*.
(b) For two distinct point A and B, there exists a third point C lying on the line AB which is in between A and B.
(a) A figure formed by the line common to collect.

(c) A figure formed by the line segments is called a rectilinear figure.

(d) All are correct

HINTS & EXPLANATIONS

- **1.** (b) :
- **2.** (a) :
- **3.** A solid has 3 dimensions.

4. (b) : С Α В $AC = BC = \frac{1}{2}AB$ 5. (a) :

- **6.** (a) :
- **7.** (c) :
- **8.** (c) :

9. (c) : (d) : 10. 11. (b) : 12. (c) : 13. (b) : (c) : We have, AC = BD14. 15. (c) : 16. (c) : 17. (a) : 18. (c) : 19. (b) :We have, PR = QS $\Rightarrow PR - QR = QS - QR \Rightarrow PQ = RS$ 20. (d) : 21. (c) : 22. (a) : 23. (d) : 24. (c) : 25. (d) :