

Introduction to Euclids Geometry

<1M>

1.A terminated line can be produced

- (A) definitely
- (B) indefinitely
- (C) both A & B
- (D) None

2.Two lines are said to be coincident if they have only one common Point. (T/F)

3.Which of the following has two dimension ?

- (A) solid
- (B) surface
- (C) line
- (D) point

4.The Euclid's geometry was developed by

- (A) Thales
- (B) Pythagoras
- (C) Egypt
- (D) Euclid

5.A solid has

- (A) one dimension
- (B) two dimension
- (C) three dimension
- (D) none

6.In Euclid's axioms, If equals are added to equals, the wholes are

- (A) unequal
- (B) equal
- (C) many or many not be equal
- (D) none of these

7.The edges of a surface are

- (A) points
- (B) length
- (C) lines
- (D) none

8.If a straight line falling on two straight lines makes the interior angles on the same side of it taken together their sum is less than the sum of two right angles, then the two straight lines, if produced indefinitely, meet on that side on which the sum of angles is :

- (A) $< 180^\circ$
- (B) $> 180^\circ$
- (C) $\leq 180^\circ$
- (D) $\geq 180^\circ$

9.Two distinct intersecting lines cannot be parallel to the

- (A) same line
- (B) distinct line
- (C) both a & b
- (D) none

10.For all positive integer n, $2n + 1$ is

- (A) even
- (B) odd
- (C) prime
- (D) none

11.If a point C lies between two points A and B such that $AC = BC$, then $AC =$

- (A) AB
- (B) BC
- (C) $\frac{AB}{2}$

(D) None

12. A mathematical statement whose truth has been established (or proved) is called

(A) Theorem

(B) Deductive reasoning

(C) Conjecture

(D) None of these

13. A point is that which has

(A) one part

(B) two part

(C) no part

(D) none

14. Two distinct lines cannot have more than

(A) one point in common

(B) two points in common

(C) three

(D) none

15. Only one line can pass through ____ distinct points.

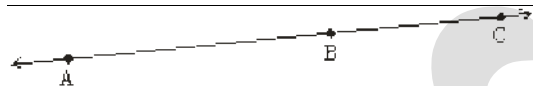
(A) single

(B) two

(C) three

(D) none

16. If A, B and C are three points on a line, and B lies between A and C then



(A) $AC = AB + AC$

(B) $AC = AB + BC$

(C) $AB = AB + AC$

(D) $BC = AC + AB$

17. There are infinite number of lines which pass through

(A) two distinct points

(B) a single point

(C) three points

(D) none

18. A circle can be drawn with

(A) any centre & any radius

(B) one centre & one radius

(C) any centre & one radius

(D) one centre & any radius

19. If two circles are equal, then their radii are

(A) unequal

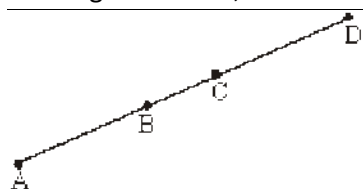
(B) may be equal

(C) equal

(D) none

20. Two distinct lines intersect at more than one points (T/F)

21. In fig. if $AC = BD$, then



(A) $AB = CD$

(B) $AC = CD$

(C) $BC = CD$

(D) $AB = BC$

22. Two distinct intersecting lines cannot be intersecting to the:

(A) Parallel line

- (B) Distinct line
(C) both a & b
(D) None

23. The kind of reasoning we have used to solve the puzzle is

- (A) Mathematical Reasoning
(B) Deductive Reasoning
(C) Both a & b
(D) Conjecture

24. In Euclid geometry the undefined terms are

- (A) a point, a line
(B) a plane surface
(C) both a & b
(D) none of these

25. Consider the following pattern of numbers called the Pascal's Triangle :

Line	Line	Sum of numbers
1	1	1
2	1 1	2
3	1 2 1	4
4	1 3 3 1	8
5	1 4 6 4 1	16
6	1 5 10 10 5 1	32
7	:	:
8	:	:

What can you conjecture about the sum of the numbers in Lines 7 and 9? What about the sum of the numbers in Line 25? Do you see a pattern? Make a guess about a formula for the sum of the numbers in line $n+1$.

- (A) $2^6, 2^8, 2^{24}, 2^n$
 (B) $2^7, 2^9, 2^{25}, 2^{n+1}$
 (C) $2^6, 2^8, 2^{25}, 2^n$
 (D) None

26.Which of the following statement is true.

- (A) Only one line can pass through a single point.
(B) A terminating line can produced indefinitely on both the sides.
(C) If two circle are unequal then their circumference are equal.
(D) There are an infinite number of lines which pass through two distinct points.

27.Which of the following has three dimension?

- (A) Solid
(B) Surface
(C) Line
(D) Point

28. Will a ray AB be the same as BA? (T/F)

29. Three or more lines are said to be concurrent if their one _____ lies on them.

30. Given two distinct points, there is a _____ line that passes through them.

31. A line contains _____ points on it.

32.A point is that which has..... part.

33. Look at the following pattern :

$$1^2 = 1$$

$$11^2 = 121$$

$$111^2 = 12321$$

Make a conjecture about each of the following :

$$111111^2 =$$

$$1111111^2 =$$

- (A) 123454321, 12345654321
(B) 12345654321, 12345654321
(C) 12345654321, 1234567654321
(D) None of these

34.The main logical tool used in establishing the truth of unambiguous statements is

- (A) Theorem
- (B) Conjecture
- (C) both a and b
- (D) Deductive reasoning

35. Euclid's axioms are

- (i) If equals are subtracted from equals, the remainders are equal.
- (ii) The whole is greater than the part.
- (iii) Things which are double of the same things are equal to one another.
- (iv) Things which are halves of the same things are equal to one another.

- (A) (i) & (iii)
- (B) (i), (ii) & (iv)
- (C) (i) & (iv)
- (D) (i) & (ii)

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36. If A, B and C are three points on a line, and B lies between A and C then prove that $AB + BC = AC$.



Fig.

37. If a point C lies between two points A and B such that $AC = \frac{1}{2} AB$, then prove that $AC = \frac{1}{2} AB$. Explain by drawing the figure.

38. In Fig., if $AB = BC$, and $AC = BD$ then prove that $AB = CD$.

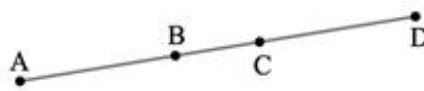


Fig.

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39. Prove that an equilateral triangle can be constructed on any given line segment.

40. Does Euclid's fifth postulate imply the existence of parallel lines? Explain. Any formulation the student gives should be discussed in the class for its validity.

41. State Euclid's five postulates.

42. Which of the following statements are true and which are false? Give reasons for your answers.

- (i) Only one line can pass through a single point.
- (ii) There are an infinite number of lines which pass through two distinct points.
- (iii) A terminated line can be produced indefinitely on both the sides.
- (iv) If two circles are equal, then their radii are equal.
- (v) In Fig, if $AB = PQ$ and $PQ = XY$, then $AB = XY$.



Fig.