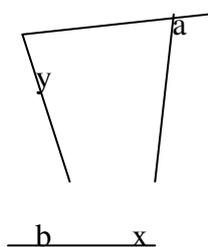


Class : IX - Mathematics

1. A lemma is an axiom used for proving
 - a) Other statement
 - b) No statement
 - c) Contradictory statements
 - d) None of these
2. The number of lines passing through four distinct collinear points is/ are
 - a) 4
 - b) 0
 - c) 1
 - d) None of these
3. The three steps from “solid” to “points” are
 - a) Solids-surfaces-lines-points
 - b) Solids-lines-surfaces-points
 - c) lines-points-surfaces-solids
 - d) none of these
4. The number of dimensions, a surface has
 - a) 0
 - b) 3
 - c) 2
 - d) None of these
5. Euclid divided his famous treatise “The Elements” into
 - a) 13 chapters
 - b) 12 chapters
 - c) 11 chapters
 - d) None of these
6. Boundaries of solids are
 - a) Surfaces
 - b) Curves
 - c) Lines
 - d) None of these
7. In ancient India, the shapes of alters used for household rituals were
 - a) Squares and circles
 - b) Triangles and rectangles
 - c) Trapezium and pyramid
 - d) None of these
8. Greeks emphasized on :
 - a) Inductive reasoning
 - b) Deductive reasoning
 - c) Both A and B
 - d) None of these
9. Euclid belongs to the Country
 - a) Babylonia
 - b) Egypt
 - c) Greece
 - d) None of these
10. Prove that every line segment has a unique mid point
11. The sides AB and AC of $\triangle ABC$ are produced to P and Q respectively. The bisector of $\angle PBC$ and $\angle QCB$ intersect at O. Find $\angle BOC$ if $\angle A = 40^\circ$.
The sides BC, CA, AB of a $\triangle ABC$ are produced to D,Q,P respectively. If $\angle ACD = 100^\circ$ & $\angle QAP = 35^\circ$, find all the angles of the triangle.
13. The sum of all exterior angles of a triangle is :
 - a) 180°
 - b) 270°
 - c) 360°
 - d) None of these
14. The sides BA and DC of a quadrilateral ABCD are produced as shown .
Prove that $a+b = x+ y$.

15. If one angle of a triangle is equal to the sum of the other two angles, then the triangle is
 - a) Isosceles
 - b) Obtuse
 - c) Equilateral
 - d) Right angled
16. What is the number of sides of a regular polygon each of whose interior angles is 150° ?
17. If $QP=QA=QR$, $\angle AQP$ & $\angle AQR$ are two adjacent angles with $\angle APQ = 70^\circ$, $\angle QAR = 45^\circ$, then are P,Q,R collinear ?

18. In $\triangle ABC$, $\angle ABC = 50^\circ$, $\angle BCA = 60^\circ$. Arrange the sides of the triangle in descending order of their lengths.
19. Is it possible to construct a quadrilateral with length of a diagonal 7cm and the lengths of the sides are 5cm, 2cm, 6cm, and 4cm.
20. In a quadrilateral ABCD, $AB=DC$ and $AB\parallel DC$. Prove that $\triangle ABC \cong \triangle ADC$.
21. In a quadrilateral ABCD, AB and DC are equal and parallel. Then prove that AD and BC are also equal and parallel.
22. Prove that the mid points of the three sides of an equilateral triangle divides it into 4 equal triangles.
23. If the side BA of $\triangle ABC$ is produced to the point D such that $AD=AC$. Then find the relation between the $\angle BAC$ & $\angle ADC$.
24. ABCD is a parallelogram with $AB > AD$. Prove that $\angle BAC < \angle DAC$.
25. P is a point on the side BC of the square ABCD. Perpendicular drawn on AP from the point B intersects DC at Q. Find the relation between AP and BQ.
26. The line segment joining the mid points of two sides of a triangle and the median on the third side :
 - a) Bisect each other
 - b) Cut in the ratio 1:2
 - c) Do not intersect
 - d) parallel
27. If E and F are mid points of the oblique sides AD and BC of the trapezium ABCD, then find the value of EF in terms of its sides.
28. Quadrilateral obtained by joining the mid points (in order) of four sides a quadrilateral is :
 - a) parallelogram
 - b) rectangle
 - c) rhombus
 - d) square
29. Quadrilateral obtained by joining the mid points (in order) of four sides a parallelogram is :
 - a) parallelogram
 - b) rectangle
 - c) rhombus
 - d) square
30. Quadrilateral obtained by joining the mid points (in order) of four sides a rhombus is :
 - a) parallelogram
 - b) rectangle
 - c) rhombus
 - d) square