Ch-5 IX Introduction to Euclid's Geometry

1. Which are the two Greek words, the word 'geometry' has been derived from?

2. What is the meaning of these two words?

3. What does the word 'geometry' mean?

4. Who were the first people to study geometry?

5. Who were the people who used the knowledge of geometry for calculating areas of fields and volume of grain storehouses?

6. Who developed formulae for areas of rectilinear figures such as rectangles and triangles?

7. To whom goes the credit for the systematic study of geometry?

8. Name the two most well known Greek Mathematicians?

9. Who is known as the 'father of geometry'?

10. What is the name of Euclid's most famous work?

11. Name two Indian mathematicians who contributed significantly in the field of geometry?

12. What is the difference between axioms and postulates?

13. State Euclid's postulate for a straight line.

14. State Euclid's postulate for a straight circle.

15. What is Euclid's postulate on right angles?

16. What is Euclid's fifth postulate ?

17. Who restated the fifth postulate of Euclid's?

18. What is the name given to restated form of Euclid's fifth postulate?

19. Give the statement of restated form of Euclid's fifth postulate?

20. What is the difference between axioms and Theorems?

Answer (Introduction to Euclid's Geometry)

1. 'geo' and 'metrien'   2. 'Geo' means 'the earth' 'metrien' meand 'measure'

3. 'Measurement of the earth'   4. The ancient Egypticians and the Babylonians.

5. The Egypticians   6. The Babylonians   7. The Greeks

8. Thales and Pythagoras   9. Euclid   10. Elements

11. Brahamgupt, Bhaskar II, Aryabhata

12. Axioms are the common nations (assumptions) used throughout mathematics and not specially linked to geometry.

Postulates are the assumptions specific to geometry.

13. A straight line may be drawn from any Egypticians one point to any other point

14. A circle can be drawn with any radius and any centre.

15. All right angles are equal to one another.

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

17. John Play fair in 1729.   18. Play fair's Axiom

19. Two distinct intersecting lines cannot be parallel to the same line.

20. Axioms are the basic facts which are taken for granted without proof. They are obvious universal truth. Theorems are statement which is proved through logical reasoning based on previously proved results and some Axioms.