

**Class: 6**  
**Subject: Mathematics**  
**Topic: basic geometrical concepts**  
**No. of Questions: 20**  
**Duration: 60 Min**  
**Maximum Marks: 60**

Q.1 Choose the false statement:

- a) Line AB is same as line BA
- b) Ray AB is the same as ray BA.
- c) Line segment AB is same as the line segment BA
- d) None of these

Solution: b) Ray AB is the same as ray BA.

[Explanation: Ray AB means



Q.2 Choose the correct statement:

- a) Every line has a definite length.
- b) every ray has a definite length
- c) every line segment has a definite length
- d) None of these

Solution: c) Every line segment has a definite length.

[Explanation: Since a line segment has 2 end points and therefore has a definite length]

Q.3 Two points in a plane determine

- a) Exactly one-line segment
- b) Exactly two line segments
- c) An infinite number of line segments
- d) None of these

Solution: a) Exactly one-line segment

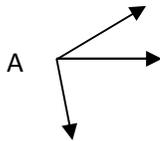
[Explanation: a line segment has 2 end points. Conversely, two points in a plane determine exactly one-line segment.]

Q.4 How many rays can be drawn with a given point as the initial point?

- a) one      b) two      c) an unlimited number      d) a limited number only

Solution: c) An unlimited number

[Hint:



Q.5 Which of the following is a simple closed figures?

- a)  b)  c)  d) None of these

Solution: a)



[Explanation: A closed figure which does not intersect itself is called a simple closed figure.]

Q. 6 A polygon is a simple closed figure formed by more than \_\_\_\_\_ line segment.

- a) one      b) two      c) three      d) four

Solution: b) two

[Hint: a simple closed figure formed of more than two or more line segments is called a polygon.]

Q.7 A quadrilateral has \_\_\_\_\_ side and \_\_\_\_\_ angles respectively.

- a) 3,4      b) 4,3      c) 4,4      d) 2,3

Solution: c)4, 4

[Explanation: ABCD is a quadrilateral having 4 sides and 4 angles]

Q.8 A figure which ends at the starting point is called a \_\_\_\_\_

- a) circle      b) closed figure      c) curve      d) None of these

Solution: b) closed figure

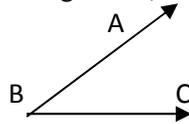
[Hint: A figure which begins and end at the same point is called a closed figure.]

Q.9 Where does the vertex of an angle lie?

- a) In its interior      b) in its exterior      c) on the angle      d) None of these

Solution: c) on the angle

[Explanation: Let us take an angle ABC,



B is the vertex which lies on the angle ABC.]

Q.10 An angle measuring  $91^\circ$  is called

- a) an acute angle      b) an obtuse angle      c) a reflex angle      d) a right angle

Solution; b) an obtuse angle

[Explanation: An angle whose measure is more than  $90^\circ$  but less than  $180^\circ$  is called an obtuse angle.

$90^\circ < 91^\circ < 180^\circ$  Therefore, an obtuse angle]

Q.11 A reflex angle measures:

- a) more than  $90^\circ$  but less than  $180^\circ$   
b) more than  $180^\circ$  but less than  $360^\circ$   
c) more than  $90^\circ$  but less than  $180^\circ$   
d) None of these

Solution: b) more than  $180^\circ$  but less than  $360^\circ$

[Hint: A reflex angle lies between  $180^\circ$  and  $360^\circ$ ]

Q.12 If there are 36 spokes in a bicycle wheel, then the angle between a pair of adjacent spokes is

- a)  $15^\circ$    b)  $12^\circ$    c)  $10^\circ$    d)  $18^\circ$

Solution: c)  $10^\circ$

[Explanation: A wheel forms a complete angle that is,  $360^\circ$

Therefore, angle between adjacent spokes =  $360^\circ/36 = 10^\circ$ ]

Q.13 Each angle of an equilateral triangle measures

- a)  $30^\circ$    b)  $45^\circ$    c)  $80^\circ$    d)  $60^\circ$

Solution; d)  $60^\circ$

[Explanation: Sum of 3 angles of a triangle is  $180^\circ$

Since an equilateral triangle has three equal angles

Therefore, each angles measures  $180^\circ/3 = 60^\circ$ ]

Q.14 The two angles of a triangle are complementary. The third angle is

- a)  $60^\circ$    b)  $45^\circ$    c)  $36^\circ$    d)  $90^\circ$

Solution; d)  $90^\circ$

[Explanation: Two angles of a triangle are complementary means their sum is  $90^\circ$

Therefore, the third angle can be calculated using angle sum property that is,

$$180^\circ - 90^\circ = 90^\circ]$$

Q.15 The sides of a scalene triangle are \_\_\_\_\_ in length.

- a) equal      b) different      c) longer      d) shorter

Solution: b) Different

[Hint: Scalene triangle has unequal sided]

Q.16 The angles opposite to equal sides of an isosceles triangle are \_\_\_\_\_

- a) equal      b) different      c) acute      d) right

Solution: a) equal

[Explanation: Angles opposite to equal sides of an isosceles triangle are equal in measure.]

Q.17 Name the quadrilateral whose diagonals are equal and the adjacent sides are unequal.

- a) square      b) parallelogram      c) rhombus      d) rectangle

Solution: d) Rectangle

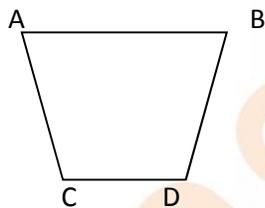
[Explanation: A rectangle has equal opposite sides and its diagonals are equal and bisect each other.]

Q.18 A quadrilateral having one and only one pair of parallel sides is called

- a) Parallelogram      b) Kite      b) Rhombus      d) Trapezium

Solution: d) Trapezium

[Explanation: A trapezium has only one pair of parallel sides.]



In trapezium ABCD,  $AB \parallel CD$

Q.19  $OP$  \_\_\_\_\_  $OQ$ , where O is the centre of the circle, P lies on the circle and Q lies in the interior of the circle.

- a) >      b) <      c) =      d) None of these

Solution: a) >

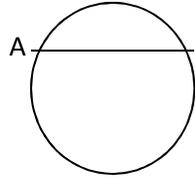
[Explanation: According to question, P lies on the circle means length of OP is greater than OQ which lies inside the circle.]

Q.20 If we join any two points of a circle by a line segment, we obtain \_\_\_\_\_ of the circle.

- a) diameter                      b) arc                      c) radius                      d) chord

Solution: d) chord

[Explanation:



Let us take 2 points A and b. then on joining A and B we get a chord of the circle.

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