SHIKSHA CLASSES

Sub. : Maths | **Question Paper** | **Total Marks : 30**
Std. IX (CBSE) | **8. Quadrilateral** | **Time : 1Hour**

SECTION - A (Each 1 Marks)

Multiple Choice Questions. (MCQs)

Q.1 : A diagonal of a parallelogram divides it into :

a) two triangles b) two congruent triangles

c) two triangles of equal area d) All of the above

Q.2 : ABCD is a rhombus such that $\angle ACB = 40°$ then $\angle ADB$ is :

a) 40 b) 45° c) 50° d) 60°

Q.3 : Two consecutive angles of a parallelogram are in the ratio 1:3 then the smaller angle is :

a) 50° b) 90° c) 60° d) 45°

Q.4 : Perimeter of quadrilateral is _____ than sum of its diagonals.

a) greater b) smaller c) equal d) None

Q.5 : The figure obtained by joining the midpoint of the sides of a rhombus, taken in order is :

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

Q.6 : A trapezium has:

a) One pair of opposite sides parallel

b) Two pairs of opposite sides parallel to each other

c) All its sides are equal d) All angles are equal

Q.7 : The angles of a quadrilateral are in the ratio 4: 5: 10: 11. The angles are:

a) 36°, 60°, 108°, 156° b) 48°, 60°, 120°, 132°

c) 52°, 60°, 122°, 126° d) 60°, 60°, 120°, 120°

Q.8 : .The quadrilateral formed by joining the mid-points of the sides of a quadrilateral PQRS, taken in order, is a rectangle, if

a) PQRS is a rectangle b) PQRS is a parallelogram

c) Diagonals of PQRS are perpendicular

d) Diagonals of PQRS are equal

Q.9 : Three angles of a quadrilateral are 75º, 90º and 75º. The fourth angle is

a) 90º b) 95º c) 105º d) 120º

For question number 10 to 11 two statement are given one labeled Assertion and other labeled Reason select the correct answer to these questions from the codes (a), (b), (c) and (d) as given below

a) both Assertion and reason are correct and reason is correct explanation for Assertion.

b) both Assertion and reason are correct but reason is not correct explanation for Assertion.

c) Assertion is correct but reason is false.

d) both Assertion and reason are false.

Q.10 : **Assertion:** A parallelogram consists of two congruent triangles.

Reason : Diagonal of a parallelogram divides it into two congruent triangles.

Q.11 : **Assertion:** Two opposite angles of a parallelogram are (3x-2)°and (50-x)° The measure of one of the angle is 37°

Reason : Opposite angles of a parallelogram are equal.

Section B (Each 2 Marks)

Q.12 : If the diagonals of a rhombus are 9 cm and 12 cm. Find its sides.

Q.13 : Show that if the diagonals of quadrilateral bisect each other at right angles. Then it is a rhombus.

OR

Prove that opposite angles of a parallelogram are equal.

Section C (Each 3 Marks)

Q.14 : In a triangle ABC median AD is produced to P such that AD = DP. prove that ABPC is a parallelogram.

OR

□ABCD is a parallelogram. E and F are the mid points of the sides AB and CD respectively. Prove that the segments CE and AF trisect (divide into three equal parts) the diagonal BD.

Q.15 : ΔABC is a right-angled triangle right angled at B; and P is the mid point of AC. Prove that

$PB = PA = \frac{1}{2} AC$.

Section D(5 marks)

Q.16 : In ΔABC and ΔDEF, AB = DE, AB || DE, BC = EF and BC || EF, vertices A, B and C are joined to vertices D, E and F respectively show that.

i) □ABED is a parallelogram ii) □BEFC is a parallelogram

iii) AD || CF and AD = CF iv) □ACFD is a parallelogram.

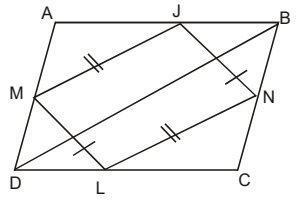
OR

ABCD is a rectangle and P, Q, R and S are mid points of the sides AB, BC, CD and DA respectively. Show that the quadrilateral PQRS is rhombus.

SECTION - E

Q.17 : **Case Study : (Any four)**

A class teacher gave students coloured paper in the shape of quadrilateral she asks to make a parallelogram from it using paper folding



i) One angle of a quadrilateral is 108^0 and the remaining three angles are equal then each of the three equal angles.

a) 90^0 b) 74^0 c) 84^0 d) 72^0

ii) How can a parallelogrm be formed by using paper folding?

a) By finding diagonals of the quadrilateral

b) By joining mid points of sides of a quadrilateral

c) By finding angle bisectors

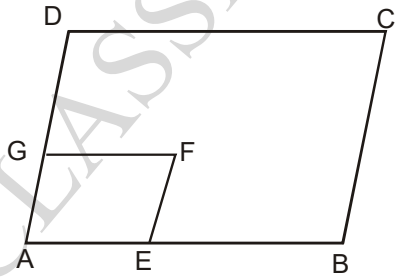
d) none of these

iii) The quadrilateral formed by joining the mid points of the sides of a quadrilateral PQRS taken in order is rectangle if

a) PQRS is a rectangle b) PQRS is a parallelogram

c) diagonals of PQRS are perpendicular d) diagonals of PQRS are equal

iv) In the fig. ABCD and AEFG are two parallelogram. If $\angle C = 60^0$ then $\angle F$ is



a) 30^0 b) 60^0 c) 90^0 d) 120^0

v) The angles of the quadrilateral are in the ratio 2 : 5 : 4 : 1 which of the following is true?

a) the largest angle in the quadrilateral is 150^0

b) the smallest angle is 30^0

c) the second largest angle in the quadrilateral 80^0

d) both the largest angle in the quadrilateral is 150^0 and smallest angle is 30^0

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