

CLASS: IX
MATHEMATICS CLASS TEST
CHAPTER 8: QUADRILATERALS

F.M. - 15

Time: 40 minutes

A. Choose the correct option: $[1 \times 3 = 3]$

1. The diagonals AC and BD of a parallelogram ABCD intersect each other at the point O.

If $\angle DAC = 32^\circ$ and $\angle AOB = 70^\circ$, then $\angle DBC$ is equal to –

- (i) 24° (ii) 86° (iii) 38° (iv) 32°

2. D and E are the mid – points of the sides AB and AC of $\triangle ABC$ and O is any point on side BC.

O is joined to A. If P and Q are the mid – points of OB and OC respectively, then DEQP is –

- (i) a square (ii) a rectangle (iii) a rhombus (iv) a parallelogram

3. If angles A, B, C and D of the quadrilateral ABCD, taken in order, are in the ratio 3: 7: 6: 4, then ABCD is a –

- (i) rhombus (ii) parallelogram (iii) trapezium (iv) kite

B. Assertion-Reason based problems: $[1 \times 2 = 2]$

1. Assertion (A): A quadrilateral can have all its angle obtuse.

Reason (R): Sum of angles of a quadrilateral is 360° .

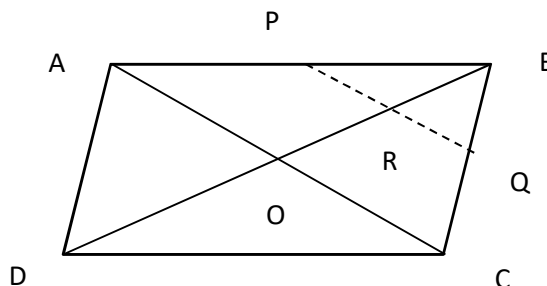
2. Assertion (A): In a quadrilateral, two consecutive angles are 105° and 75° .

Then the quadrilateral is a trapezium.

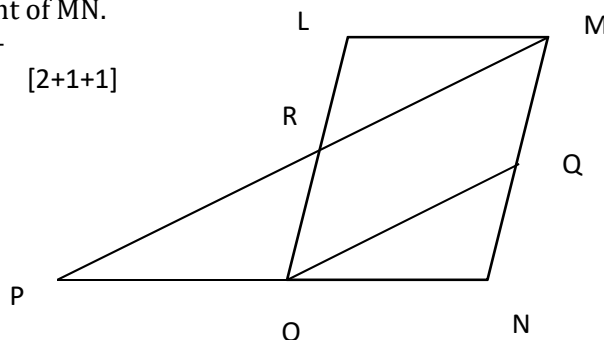
Reason (R): A quadrilateral in which a pair of opposite sides are parallel is called a trapezium.

C. Answer the following:

1. In the adjoining figure, ABCD is a parallelogram. If P and Q are the mid – points of the sides AB and BC respectively. Prove that, $CR = \frac{1}{4} AC$ [3]



2. LMNO is a parallelogram and Q is the midpoint of MN. MR $\parallel$ QO meet extended NO at P. Prove that –
 (i) $PN = 2LM$, (ii) $RM = 2PM$, (iii) $OQ = PR$ [2+1+1]



3. ABC is an isosceles right angled triangle such that $\angle A = 90^\circ$. If D, E, F are the midpoints of AB, BC and CA, prove that the quadrilateral ADEF is a square. [3]