Maths Revision Test 9

Time : 60 mins

Max Marks : 40

Q1.

(a) If $3x + 2y = 12$ and $xy = 6$, find the value of $9x^2 + 4y^2$

3 marks

(b) If $x - \frac{1}{x} = 4$, then evaluate $x^2 \frac{1}{x^2}$ and $x^4 \frac{1}{x^4}$.

3 marks

Q2. Solve:

(i) Can a triangle have two obtuse angles? Give reason for your answer.

(ii) Find two rational numbers between 0.1 and 0.3

6 marks

Q3. If two parallel lines are intersected by a transversal, prove that the bisectors of the two pairs of interior angles enclose a rectangle.

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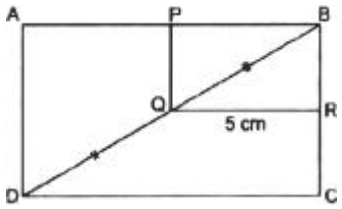
4 marks

Q4 In ΔABC, if ∟A = 80°, ∟B = 70°, then identify the longest and the shortest side of the triangle.

3 marks

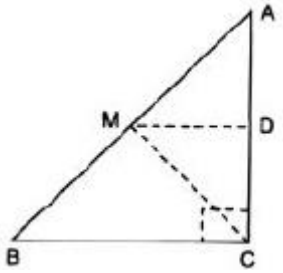
Q5 In the adjoining figure, ABCD and PQRB are rectangles where Q is the mid point of BD.

If QR = 5 cm, then find the length of AB.



3 marks

Q6. ABC is a triangle, right angled at C. A line through the mid-point M of hypotenuse AB and parallel to BC intersects AC at D. Show that



(i) D is the mid-point of AC

(ii) MD ⊥ AC

(iii) $CM = MA = \frac{1}{2}AB$

. 3 marks

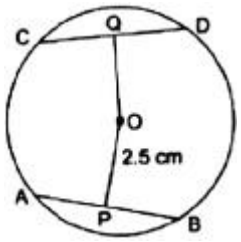
Q7. ABCD is a rhombus and P, Q, R and S are the mid-points of the sides AB, BC, CD and DA respectively. Show that the quadrilateral PQRS is a rectangle.

4 marks

Q8. A circular park of radius 20 m is situated in a colony. A B and C are sitting at equal distance on its boundary each having a toy phone in his hands to talk to each other. Find the length of the string of each phone.

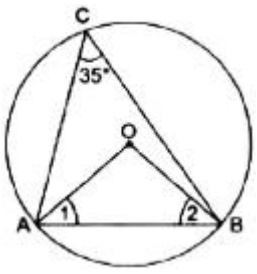
4 marks

Q9. In the figure, $\overline{AB} = \overline{CD}$. P and Q are the mid-points of AB and CD respectively. What is the length of OQ?



4 marks

Q 10 a) In the figure, if ∠ACB = 35°, then find the measure of ∠OAB.



1 mark

b) The radius of a circle is 17 cm. A chord of length 30 cm is drawn. Find the distance of the chord from the centre.

2 marks