

WINTER HOLIDAY HOME WORK

CLASS - IX Maths

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Q.1 ABCD is a cyclic quadrilateral, if $\angle A = 3y$, $\angle B = 40^\circ$, $\angle C = 15y$, $\angle D = 2x$ find the value of x and y .

Q.2 If one angle of an isosceles triangle is 130° , then find the angle between the bisectors of the other two angles.

Q.3 ABC is a triangle right angled at C. A line through the mid-pt. M of hypotenuse AB and parallel to BC intersects AC at D. Prove that

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

ii) $MD \perp AC$

Q.4 A diagonal of a parallelogram divides it into two congruent triangles.

Q.5 Prove that the line segments joining the mid-points of the opposite sides of a quadrilateral bisect each other.

Q.6 The radius of a circle is 17cm and the length of one of its chords is 16cm. Find the distance of the chord from the centre.

Q.7 The circumcentre of $\triangle ABC$ is O. Prove that $\angle OBC + \angle BAC = 90^\circ$.

