

AC = \_\_\_\_ The hypotenuse is \_\_\_\_

- Q.4 Solve the following
  - 1 In  $\triangle$ ABC, point M is the midpoint of side BC. If,  $AB^2 + AC^2 = 290 \text{ cm}^2$ , AM = 8, find BC



- 2 Find the diagonal of a rectangle whose length is 35 cm and breadth is 12 cm.
- Q.5 Answer the following
  - 1  $\Box$ ABCD is a parallelogram. Side AB = diagonal BD. Prove that BD<sup>2</sup> + 2BC<sup>2</sup> = AC<sup>2</sup>.



2 In  $\triangle ABC$ ,  $\angle BAC = 90^\circ$ , seg BL and seg CM are medians of  $\triangle ABC$ . Then prove that: 4 (BL<sup>2</sup> + CM<sup>2</sup>) = 5 BC<sup>2</sup>



- Q.6 Answer the following
  - <sup>1</sup> In  $\square$ ABCD, diagonals AC and BD intersect at the point E. If  $\frac{AE}{EC} = \frac{BE}{ED}$ , then prove that  $\square$ ABCD is a trapezium, using basic proportionality theorem.
  - 2 In an equilateral triangle ABC, the side BC is trisected at D. Prove that  $9 \text{ AD}^2 = 7 \text{AB}^2$ .



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