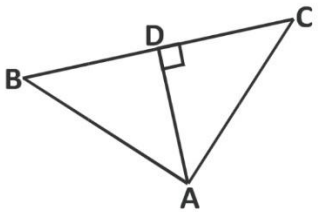
SERIES - 1	IMP SERIES Introduced by "CGBSE SUPPORT"	Important Questions for Chhattisgarh Board Exam '2021'

Class – 10th **Subject – Mathematics**

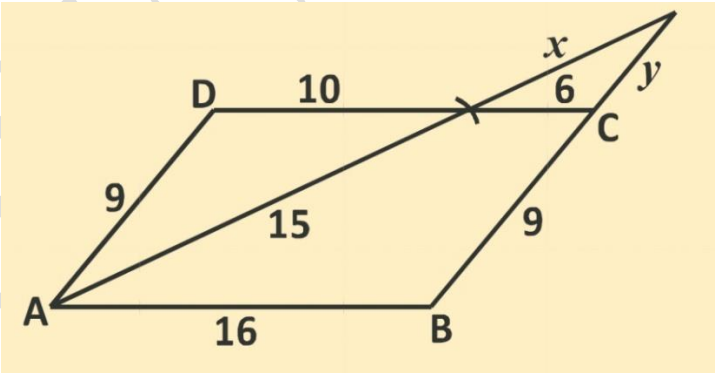
"Similarity in Geometrical Shapes"

"4" Marks Questions

1. A girl of height 90 cm is walking away from the base of the lamp post at a speed of 1.2m/s. If the lamp bulb is 3.6m above the ground. Find length of her shadow after 4 seconds.
2. In figure AD ⊥ BC.
   Prove that $AB^2 + CD^2 = BD^2 + AC^2$



3. ABCD is a parallelogram. Find the values of x and y.



4. If the areas of two similar triangles are equal to each other, Then prove that the triangles are congruent.
5. ΔABC is an isosceles triangle in which $\angle C = 90^\circ$.
   prove that $AB^2 = 2AC$
6. Triangle ABC is right angled at C. Point D and E are located on sides CA and CB respectively. Prove that $AE^2 + BD^2 = AB^2 + DE^2$.

"5" Marks Question

1. In a right triangle PQR, P is the right angle and M is the point on QR such that PM⊥QR. Show that pm^2 = QM.MR.
2. In a triangle ABC, ∠ABC = 90° and CD⊥AB. Prove that $\frac{BC^2}{AC^2} = \frac{BD}{AD}$.
3. In a right angle triangle, the square of hypotenuse is equal to the sum of the squares of other two sides. Prove.
4. The ratio of the area of 2 similar triangles is equal to ratio of their corresponding sides. Prove.