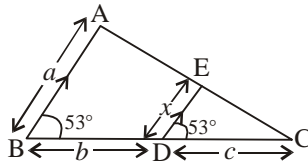


Q10. In the given figure, find x in terms of a , b and c .



Q11. The perimeters of two similar triangles are 25cm and 15cm respectively. If one side of first triangle is 8cm, what is corresponding side of the other triangle?

Q12. ABC is an isosceles triangle right angled at B. Similar triangles ACD and ABE are constructed on sides AC and AB. Find the ratio between the areas of $\triangle ABE$ and $\triangle ACD$.

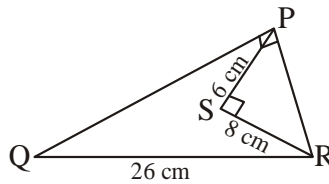
Q13. In a right angled triangle ABC, $\angle A = 90^\circ$ and $AD \perp BC$. Prove that $AD^2 = BD \times CD$.

Q14. In a right angle triangle ABC, right angled at C, P and Q are the points of the sides CA and CB respectively which divides these sides in the ratio 1:2, prove that $9(AQ^2 + BP^2) = 12AB^2$

Q15. In right $\triangle ABC$, right angled at C, a point D is taken on AB such that CD is perpendicular to AB.

Prove that $\frac{1}{AC^2} + \frac{1}{BC^2} = \frac{1}{CD^2}$.

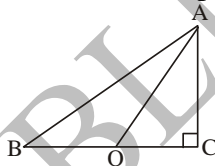
Q16. In $\triangle PQR$, $\angle QPR = 90^\circ$ and $QR = 26$ cm. If $PS \perp SR$, $PS = 6$ cm and $SR = 8$ cm, find ar($\triangle PQR$).



Q17. A ladder 25 m long reaches a window which is 24 m above the ground on side of the street. Keeping the foot at the same point, the ladder is turned to the other side of the street to reach a window 7 m high. Find the width of the street.

Q18. In a quadrilateral ABCD, $CA = CD$, $\angle B = 90^\circ$ and $AD^2 = AB^2 + BC^2 + CA^2$. Prove that $\angle ACD = 90^\circ$.

Q19. In the given figure, $\angle BCA = 90^\circ$. Q is the mid-point of BC. Prove that : $AB^2 = 4AQ^2 - 3AC^2$.



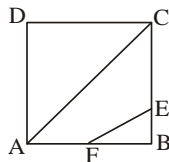
Q20. ABC is a right triangle, right angled at B. AD and CE are the two medians drawn from A and C respectively. If $AC = 5$ cm and $AD = \frac{3\sqrt{5}}{2}$ cm, find the length of CE.

Q21. ABC is a right triangle, right-angled at C. Let $BC = a$, $CA = b$, $AB = c$ and let p be the length of perpendicular from C on AB, prove that:

$$(i) cp = ab \quad (ii) \frac{1}{p^2} = \frac{1}{a^2} + \frac{1}{b^2}$$

Q22. ABC is a right angles triangle, right angled at A. A circle is inscribed in it. The lengths of the two sides containing the right angles are 6cm and 8cm. Find the radius of the circle.

Q23. In the given figure, ABCD is a square. F is the mid-point of AB, BE is one-third of BC. If the area of $\triangle FBE = 108 \text{ cm}^2$, find the length of AC.



Q24. Equilateral triangles are drawn on the sides of a right angled triangle. Show that the area of the triangle on the hypotenuse is equal to the sum of the areas of triangles on the other two sides.

Q25. In $\triangle ABC$, AD is bisector of $\angle A$, meeting side BC at D.

(i) If $AB = 10$ m, $AC = 6$ cm, $BC = 12$ cm find BD and DC.

(ii) If $AB = 5.6$ cm, $AC = 6$ cm and $DC = 3$ cm, find BC.