

11. The area of a square is 390625 square feet ; what is the diagonal ?

12. Each side of an equilateral triangle is 13 ; find the length of the perpendicular dropped from one of the angles on the opposite side.

13. If ABC be an equilateral triangle and the length of AD , a perpendicular on BC , be 15 ; find the length of AB .

14. The radius of a circle is 37 inches ; a chord is drawn in the circle : if the length of this chord be 70 inches, find its distance from the centre.

15. The distance of a chord in a circle from the centre is 180 inches ; the diameter of the circle is 362 inches : find the length of the chord.

16. The length of a chord in a circle is 150 feet, and its distance from the centre is 308 feet find the diameter of the circle.

17. If ABC be an isosceles right-angled triangle, C being the right angle, show that

$$AC : AB = 1 : \sqrt{2}.$$

18. If DEF be an equilateral triangle and a perpendicular DG be dropped on EF , show that

$$DG : ED : DF = 1 : 2 : \sqrt{3}.$$

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