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**Class: X Mathematics- Worksheet- chapters 6-8**

**Date: 21\11\2019**

**Answer the following :**

1. PQR is a triangle right angled at P and M is a point on QR such that PM  QR. Show that 

2. ABC is an isosceles triangle right angled at C, prove that .

3. A ladder 10m long reaches a window 8 m above the ground. Find the distance of the foot of the ladder from base of the wall. 6m

4. In an equilateral triangle , prove that 3 times the square of one side is equal to four times the square of one of its altitudes.

5. Show that the points (1, 7), (4,2),(-1,-1) and (-4, 4) are the vertices of a square.

6. Find a relation between x and y such that the point (x, y) is equidistant from the points (7,1) and (3, 5). X – Y = 2

7. Determine if the points (1,5), (2,3) and (-2,-11) are collinear.

8. Find the point on the x-axis which is equidistant from (2,-5) and (-2,9). (-7,0)

9. Find the values of y for which the distance between the points P(2,-3) and Q(10,y) is 10 units. -9, 3

10. In what ratio does the point (-4, 6) divide the line segment joining the points (-6, 10) and (3, -8)? (2:7)

11. Points A(-1, y) and B(5, 7) lie on a circle with centre O(2, -3y). Find the values of ‘ y ‘. Hence find the radius of the circle. 5, ****

12. Determine the ratio in which the straight line x – y – 2 = 0 divides the line segment joining (3, -1) and (8, 9). 2:3

13. Find the area of the triangle (5,2), (4,7) and (7,-4). 2 sq.units

14. For what value of ‘k’ are the points ( k , 2 – 2k), (-k+1, 2k) and

(-4-k, 6-2k) are collinear? -1 or 1/2

15. If **, find the value of . 10**

**16. In right triangle at C, if tanA = 1, then verify that**

**2 sinA cosA =1**

**17. In the figure, find tanP – cot R.  Ans. 0**

**18. Prove that: .**

**19. Evaluate:  67/12**

**20. Prove that .**