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Date : 11-06-2021

Batch: Genesis 8th

Sub: Mathematics

Test code: SEP07 (21011307)

Time: 1 Hours **M. Marks: 24**

1. Find the length of a side of a square, whose area is equal to the area of a rectangle with sides 240 m and 70 m. (3 marks)
2. Evaluate $\sqrt{50625}$ and hence find the value of $\sqrt{506.25}+\sqrt{5.0625}$ (3 marks)
3. Find the least number of six digits which is a perfect square. (3 marks)
4. A steamer goes downstream from one point to another in 9 hours. It covers the same distance upstream in 10 hours. If the speed of the stream be 1 km/hr, find the speed of the steamer is still water and the distance between the ports. (3 marks)
5. The numerator of a rational number is 3 less than the denominator. If the denominator is increased by 5 and the numerator by 2, we get the rational number ½. Find the rational number. (3 marks)
6. The length of a rectangle exceeds its breath by 4 cm. If length and breath are each increased by 3 cm, the area of the new rectangle will be $81\ cm^2$ more than that of the given rectangle. Find the length and breadth of the given rectangle. (3 marks)
7. Solve the following equations and verify your answer: (3 marks)

   (i) $\dfrac{(x+2)(2x-3)-2x^2+6}{x-5}=2$

8. Find a positive value of x for which the given equation is satisfied: (3 marks)

   (i) $\dfrac{y^2+4}{3y^2+7}=\dfrac{1}{2}$