

# LATEX ASSIGNMENT

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## EXERCISE 10.4.3

1. Find the roots of the following quadratic equations, if they exist, by the method of completing the square:

(i)  $2x^2 - 7x + 3 = 0$

(ii)  $2x^2 + x - 4 = 0$

(iii)  $4x^2 + 4\sqrt{3}x + 3 = 0$

(iv)  $2x^2 + x + 4 = 0$

2. Find the roots of the quadratic equations given in Q.1 above by applying the quadratic formula.
3. Find the roots of the following equations:

(i)

$$x - \frac{1}{x} = 3, x \neq 0 \quad (1)$$

(ii)

$$\frac{1}{x+4} - \frac{1}{x-7} = \frac{11}{30}, x \neq -4, 7 \quad (2)$$

4. The sum of the reciprocals of Rehman's ages, (in years) 3 years ago and 5 years from now is  $\frac{1}{3}$ . Find his present age.
5. In a class test, the sum of shefali's marks in Mathematics and english is 30. Had she got 2 marks more in Mathematics and 3 marks less in English, the product of their marks would have been 210. Find her marks in the two subjects.
6. The diagonal of a rectangular field is 60 metres more than the Shorter side. If the longer side is 30 metres more than the shorter side, find the sides of the field.
7. The difference of squares of two numbers is 180. The square of the smaller number is 8 times the larger number. Find the two numbers.

8. A train travels 360 km at a uniform speed. If the speed had been 5 km/hr more, it would have taken 1 hour less for the same journey. Find the speed of the train.
9. Two Water taps together can fill a tank in  $9\frac{3}{8}$  hours. The tap of larger diameter takes 10 hours. The tap of larger diameter takes 10 hours less than the smaller one to fill the tank separately. Find the time in which each tap can separately fill the tank.
10. An express train takes 1 hour less than a passenger train to travel 132 km between mysore and bangalore (without taking into consideration the time they stop at intermediate stations). If the average speed of the express train is 11 Km/h more than that of the passenger train, find the average speed of the two trains.
11. Sum of the areas of two square is  $468m^2$ . If the difference of their perimeter is 24m, find the sides of the two squares.