Chapter 4

ASSIGNMENT

OBJECTIVE EXCERCISE - 4.1

1. If one root of $5x^2 + 13x + k = 0$ is reciprocal of the other then k =

(A) 0 (B) 5 (C) $\frac{1}{6}$ (D) 6

2. The roots of the equation $x^2 - x - 3 = 0$ are

(A) Imaginary (B) Rational (C) Irrational (D) None of these

3. The difference between two numbers is 5 different in their squares is 65. The larger number is

(A) 9 (B) 10 (C) 11 (D) 12

4. The sum of ages of a father and son is 45 years. Five years ago, the product of their ages was 4 times the age of the father at that time. The present age of the father is

(A) 30 yrs (B) 31 yrs (C) 36 yrs (D) 41 yrs

5. If one of the roots of the quadratic equation is $2+\sqrt{3}$ then find the quadratic equation.

(A) $x^2 - (2+\sqrt{3})x + 1 = 0$ (B) $x^2 + (2+\sqrt{3})x + 1 = 0$

(C) $x^2 - 4x + 1 = 0$ (D) $x^2 + 4x - 1 = 0$

SUBJECTIVE EXCERCISE - 4.2

1. If x = - and $x = \frac{1}{5}$ are solutions of the equations $x^2 + kx + \lambda = 0$. Find the value of k and λ.

2. Find the value of k for which quadratic equation $(k - 2)x^2 + 2(2k - 3)x + 5k - 6 = 0$ has equal roots.

3. The sum of the squares of two consecutive positive integers is 545. Find the integers.

4. A man is five times as old as his son and the sum of the squares of their ages is 2106. Find their ages.

5. The sides (in cm) of a right triangle containing the right angles are 5x and 3x - 1. If the area of the triangle is 60 cm^2. Find its perimeter.

6. The lengths of the sides of right triangle are 5x + 2, 5x and 3x - 1. If x > 0 find the length of each sides.

7. A two digit number is four times the sum and three times the product of its digits, find the number **[CBSE – 2000]**

8. The number of a fraction is 1 less than its denominator. If 3 is added to each of the numerator and denominator, the fraction is increased by $\frac{3}{28}$. Find the fraction **[CBSE - 2007]**

9. Solve the quadratic equation $\frac{x-1}{x-2} - \frac{x-2}{x-3} = \frac{x-5}{x-6} - \frac{x-6}{x-7}$

10. An aeroplane left 30 minutes later then its scheduled time and in order to reach its destination 1500 km away in time. it has to increase its speed by 250 km/h from its usual speed. Determine its usual speed.

[CBSE-2005]

11. A motor boat whose speed is 18 km/h in still water takes 1 hours more to go 24 km upstream than to return downstream to the same spot. Find the speed of the stream. **[CBSE-2008]**

12. Two water taps together can fill a tank in $9\frac{3}{8}$ hours. The tap of larger diameter takes 10 hours less that the smaller one to fill the tank separately. Find the time in which each tap can separately fill the tank.

[CBSE-2008]