

1. If one zero of the polynomial

$$p(x) = 6x^2 + 37x - (k - 2) \quad (1)$$

is reciprocal of the other, then find the value of  $k$ ?

2. Find the value of ' $p$ ' for which one root of the quadratic equation

$$px^2 - 14x + 18 = 0 \quad (2)$$

is 6 times the other?

3. (a) prove that

$$\frac{\sin A - 2 \sin^3 A}{2 \cos^3 A - \cos A} = \tan A \quad (3)$$

(b)

$$\sec A(1 - \sin A)(\sec A + \tan A) = 1 \quad (4)$$

4. Which of the following quadratic equations has sum of its roots as 4?

(a)  $2x^2 - 4x + 8 = 0$

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

(c)  $\sqrt{2}x^2 - \frac{4}{\sqrt{2}}x + 1 = 0$

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

5. if one zero of the polynomial

$$6x^2 + 37x - (k - 2) \quad (5)$$

is reciprocal of the other, then what is the value of  $k$ ?

(a) -4

(b) -6

(c) 6

(d) 4

6. The zeroes of the polynomial

$$p(x) = x^2 + 4x + 3 \quad (6)$$

are given by:

(a) 1,3

(b) -1,3

(c) 1,-3

(d) -1,-3