1. If $x^2+k(4x+k-1)+2=0$ has equal roots, then $k=$

(a) $-\frac{2}{3},1$ (b) $\frac{2}{3},-1$ (c) $\frac{3}{2},\frac{1}{3}$ (d) $-\frac{3}{2},-\frac{1}{3}$

2. Which one of the following is not a quadratic equation?

(a) $(x+2)^2=2(x+3)$ (b) $x^2+3x=(-1)(1-3x)^2$

(c) $(x+2)(x-1)=x^2-2x-3$ (d) $x^3-x^2+2x+1=(x+1)^3$

3. $\left(x^2+1\right)^2-x^2=0$ has

(a) four real roots (b) two real roots (c) no real roots (d) one real root.

4. The values of k for which the quadratic equation $16x^2+4kx+9=0$ has real and equal roots are

(a) $6,-\frac{1}{6}$ (b) $36,-36$ (c) $6,-6$ (d) $\frac{3}{4},-\frac{3}{4}$

5. If a, p are the roots of the equation $(x-a)\quad(x-b)+c=0$, then the roots of the equation $(x-a)(x-P)=c$ are

(a) a, b (b) a, c (c) b, c (d) none of these

6. If the roots of $px2+qx+2=0$ are reciprocal of each other, then

(a) $P=0$ (b) $p=-2$ (c) $p=\pm 2$ (d) $p=2$

7. If one root of the quadratic equation $2x^2+\quad kx-6=0$ is 2 , the value of k is

(a) 1 (b) -1 (c) 2 (d) -2

8. The roots of the quadratic equation $\frac{1}{a+b+x}=\frac{1}{a}+\frac{1}{b}+\frac{1}{x},a+b\neq 0$ is

(a) a, b (b) $-a,b$ (c) $a,-b$ (d) $-a,-b$

9. If $ax^2+bx+c=0$ has equal roots, then $c=$

(a) $\frac{-b}{2a}$ (b) $\frac{b}{2a}$ (c) $\frac{-b^2}{4a}$ (d) $\frac{b^2}{4a}$

10. Values of k for which the quadratic equation $2x^2-kx+k=0$ has equal root

(a) 0 only (b) 4 (c) 8 only (d) 0,8

11. Which constant must be added and subtracted to solve the quadratic equation $9x^2 + \frac{3}{4}x - \sqrt{2} = 0$ by the method of completing the square?

(a) $\frac{1}{8}$ (b) $\frac{1}{64}$ (c) $\frac{1}{4}$ (d) $\frac{9}{64}$

12. The quadratic equation $2x^2 - \sqrt{5}x + 1 = 0$ has

(a) two distinct real roots (b) two equal real roots

(c) no real roots (d) more than 2 real roots

13. Which of the following equations has two distinct real roots?

(a) $2x^2 - 3\sqrt{2}x + \frac{9}{4} = 0$ (b) $x^2 + x - 5 = 0$

(c) $x^2 + 3x + 2\sqrt{2} = 0$ (d) $5x^2 - 3x + 1 = 0$

14. Which of the following equations has no real roots?

(a) $x^2 - 4x + 3\sqrt{2} = 0$ (b) $x^2 + 4x - 3\sqrt{2} = 0$

(c) $x^2 - 4x - 3\sqrt{2} = 0$ (d) $3x^2 + 4\sqrt{3}x + 4 = 0$