Quadratic Equations : Worksheet -11

1. The equation whose roots are $3 + 2\sqrt{2}$ and $3 - 2\sqrt{2}$ is _____ [ ]

   a) $x^2 - 6x + 1 = 0$ b) $x^2 + 6x + 1 = 0$

   c) $x^2 - 6x - 1 = 0$ d) None

2. If one root of the equation $ax^2 + bx + c = 0$ is k times the other, which of the following is true ? [ ]

   a) $ka^2 = bc\ (1 + k)^2$ b) $kc^2 = ac\ (1 + k)^2$

   c) $kc^2 = ab\ (1 + k)^2$ d) $kb^2 = ac\ (1 + k)^2$

3. The roots of $(a^2 + b^2)\ x^2 + 2x\ (ac + bd) + c^2 + d^2 = 0$ are _____ [ ]

   a) real and equal b) real and different

   c) not real d) equal but not real

4. Both the roots of the equation $(x - b)\ (x - c) + (x - a)\ (x - c) + (x - a)\ (x - b) = 0$ are always_____ [ ]

   a) positive b) negative c) real d) imaginary

5. The value of $\sqrt{6+\sqrt{6+\sqrt{6-----}}}$ is _____ [ ]

   a) 4 b) 3 c) – 2 d) 3.5

6. The positive value of k for which the equation $x^2 + kx + 64 = 0$ and $x^2 - 8x + k = 0$ with both have real roots, then k is _____[ ]

   a) 4 b) 8 c) 12 d) 16

7. If the equation $9x^2 + 6kx + 9 = 0$ equal roots, then the roots are equal to __ [ ]

a) $\pm\frac{2}{3}$ b) $\pm\frac{3}{2}$ c) – 1 d) ± 3

8. The value of $\sqrt{1+\sqrt{7+\sqrt{1+\sqrt{7+-------\infty}}}}$ is [ ]

a) 2 b) 1 c) 0 d) 3/2

9. The discriminant of the equation $x^2-7x+2=0$ is [ ]

a] 47 b] 40 c] 41 d] – 41

10. If α and β are the roots of the equation $x^2+3x-2=0$, then $\alpha^2\beta+\alpha\beta^2$ = [ ]

a] – 6 b] – 3 c] 6 d] 3