Quadratic Equations : Worksheet -10

1. Which of the following is correct? [   ]

   a) $x^2 - x + 1 = 0$ has 2 real roots

   b) $x^2 + x + 1 = 0$ has no real roots

   c) sum of the roots of the equation $x^2 - 1 = 0$ is 1

   d) If $\Delta = 0$ then $ax^2 + bx + c = 0$ have imaginary roots

2. Sum of the roots of equation $4x^2 - 1 = 0$ is [   ]

   a) ¼   b) ½   c) 0   d) − ½

3. If the discriminant (Δ) of a quadratic equation $ax^2 + bx + c = 0$ is zero,

   then the parabola $y = ax^2 + bx + c$ intersects x − axis [   ]

   a) in two distinct points   b) in only one point

   c) in no point   d) none

4. The curve $x = my^2$ (m > 0) lies in quadrants [   ]

   a) 1 and 2   b) 1 and 3   c) 1 and 4   d) 2 and 4

5. The discriminant of the quadratic equation $2x^2 - 7x + 3 = 0$ is

   [   ]

   a) 20   b) 24   c) 25   d) 26

6. The discriminant of a quadratic equation is negative, then the roots

   are [   ]

   a) imaginary   b) real   c) equal   d) none

7. The solution set which satisfies the quadratic equation $x^2 - 4x + 3 = 0$

   [   ]

   a) {1, 4}   b) {1, - 4}   c) {1, 3}   d) {- 4, 3}

8. If r, s are the roots of $ax^2 + bx + c = 0$ $a \neq 0$, $b \neq 0$, $c \neq 0$, a, b, c $\in$ R

then $\dfrac{1}{r^2} + \dfrac{1}{s^2} =$ [   ]

   a) $b^2 - 4ac$
   b) $\dfrac{b^2 - 4ac}{2a}$
   c) $\dfrac{b^2 - 4ac}{a^2}$
   d) $\dfrac{b^2 - 2ac}{c^2}$

9. In finding the roots of $x^2 + px + q = 0$, if the co – efficient of x was taken – 7 instead of – 8 and the roots were 4 and 3, then the correct roots are [   ]

   a) 6, 2
   b) – 6, - 2
   c) – 3, - 4
   d) 3, 4

10. If α, β are the roots of $ax^2 + bx + c = 0$ then $\left(\dfrac{\alpha}{a\beta + b}\right)^3 - \left(\dfrac{\beta}{a\alpha + b}\right)^3 =$

[   ]

   a) 0
   b) 1
   c) $(a + b)^2$
   d) $(a - b)^2$