Questions

1. If $x^2 + 2ax + 10 - 3a > 0$ for all $x \in R$, then (1) - 5 < a < 2(3) a > 5 ngo /// mathongo /// mathongo /// (4) 2 < a < 5 /// mathongo /// mathongo /// matho 2. The values of a for which $(a^2 - 1)x^2 + 2(a - 1)x + 2$ is positive for any x is (2) $a \le 1$ o ///. mathongo ///. mathongo ///. matho (1) $a \ge 1$ (3) a > -3(4) a < -3 or a > 13. The number of integral values of m for which the quadratic expression (1+2m) $x^2-2(1+3m)x+4(1+m)$, $x \in R$ is always positive, is (1) 7 mathongo (1) mathongo (1) mathongo (1) mathongo (2) mathongo (2) mathongo (3) mathongo (4) mathongo (4(3) 6**4.** If α and β are the roots of $4x^2 - 16x + \lambda = 0$, $\lambda \in R$ such that $1 < \alpha < 2$ and $2 < \beta < 3$, then the number of integral

solutions of λ is

- (1) 5// mathongo /// mathongo // matho (3) 2 hongo /
- 5. The set of all the possible real values of a such that the inequality $(x-(a-1))(x-(a^2+2))<0$ holds for all $x\in(-1,3)$, is mathongo /// mathongo $(1) (1, \infty)$
- (4) (0,1) $(3) (-\infty, 1)$ 6. All the real values of m such that both roots of the equation $x^2 - 2mx + m^2 - 1 = 0$ are greater than -2 and less than 4 lies in
- (2) (-1,2)(1) (-2,4)
- (3) (-1,3)(4) None of these mathongo // mathongo // matho 7. The value of k for which both the roots of the equation $4x^2 - 20kx + (25k^2 + 15k - 66) = 0$ are less than 2, lies in
- (1) $(\frac{4}{5}, 2)$ (2) (0, 2)
 - (3) $\left(-1, -\frac{4}{5}\right)$ $(4) (-\infty, -1)$
- 8. If both roots of $x^2 2ax + a^2 + a 3 = 0$ are less than 3, then
 - (2) $2 \le a \le 3$ (1) a < 2(3) $3 < a \le 4$ /// mathongo /// mathongo /// (4) a > 4 o /// mathongo /// mathongo /// mathongo
- 9. The range of a for which the equation $x^2 + ax 4 = 0$ has its smaller root in the interval (-1, 2) is
 - (1) $(-\infty, -3)$ // mathongo /// mathongo /// (2) (0, 3) o /// mathongo /// mathongo /// mathongo $(4) \ (-\infty, -3) \cup (0, \infty)$ $(3) (0, \infty)$
- 10. If the equation $ax^2 + 2bx 3c = 0$ has no real roots and $\frac{3c}{4} < a + b$, then _____ mathons ____ mathons ____ mathons
- (2) c > 0(1) c < 0
 - mathongo /// mathongo /// a+2b-3c<0 mathongo /// mathongo /// mathongo /// mathongo