Ninth Grade - Quadratic Equations - Inequalities

1) Quadratic Equation: $3x^2 - 7x + 8 = 0$ (a) Find the Discriminant, (b)Real or Not Real Roots, (c) Equal (one) or Unequal Roots, (d) Rational or Irrational Roots?

- (a)-47 (b) Not Real (c)None of these (d)None
- (a)7 (b) Real (c)None (d)None
- (a) -23 (b)Real (c)Equal (d)Rational
- (a) -23 (b)Not Real (c)Unequal (d)None of these

2) Quadratic Equation $4x^2 + 12x + 9 = 0$ Find the (a)Discriminant, (b)Real or Not Real Roots, (c)Equal (one) or Unequal Roots, (d)Rational or Irrational Roots?

- (a)5 (b)Real (c)Equal Roots (d)Rational Roots
- (a)1 (b)Not Real (c)Equal Roots (d)Rational Roots
- (a)0 (b)Real (c)Equal Roots (d)Rational Roots
- (a)0 (b)Real (c)Equal Roots (d)Rational Roots

3) Quadratic Equation $16x^2 + 8x + 1 = 0$ Find the (a) Discriminant, (b) Real or Not Real Roots, (c) Equal (one) or Unequal Roots, (d) Rational or Irrational Roots?

- (a)5 (b)Not Real (c)Equal (d)Rational Roots
- (a)0 (b)Real (c)Not Equal (d)Irrational Roots
- (a)1 (b)Not Real (c)Equal (d)Rational Roots
- (a)0 (b)Real (c)Equal (d)Rational Roots

4) Quadratic Equation $x^2 - 8x + 16 = 0$ Find the (a) Discriminant, (b) Real or Not Real Roots, (c) Equal (one) or Unequal Roots, (d) Rational or Irrational Roots?

- (a)0 (b)Real (c)Equal Roots (d)Rational Roots
- (a)3 (b) Not Real (c)Equal (d)Rational Roots
- (a)2 (b)Real (c)Un Equal (d)Rational Roots
- (a)3 (b)Not Real (c)Equal (d)Rational Roots

5) Quadratic Equation $-x^2 + 4x + 5 = 0$ Find the (a) Discriminant, (b) Real or Not Real Roots, (c) Equal (one) or Unequal Roots, (d) Rational or Irrational Roots?

- (a)0 (b)Real Roots (c)Un Equal Roots (d)Irrational Roots
- (a)1 (b)Not Real (c)Equal Roots (d)Irrational Roots
- (a)0 (b)Not Real (c)Equal Roots (d)Rational Roots
- (a)-4 (b)Not Real (c)None (d)None

6) Quadratic Equation $-2x^2 - 9x - 5 = 0$ Find the (a) Discriminant, (b) Real or Not Real Roots, (c) Equal (one) or Unequal Roots, (d) Rational or Irrational Roots?

- (a)41 (b)Not Real (c)None (d)None
- (a)-1 (b)Real (c)Not Equal (d)Irrational Roots
- (a)-3 (b)Not Real (c)None (d)Rational Roots
- (a)0 (b)Not Real (c)Equal (d)Rational Roots

7) Quadratic Equation $2x^2 + 7x + 3 = 0$ Find the (a) Discriminant, (b) Real or Not Real Roots, (c) Equal (one) or Unequal Roots, (d) Rational or Irrational Roots?

- (a)Discriminant = 17 (b)Real (c)Equal Roots (d)Irrational Roots
- (a)5 (b)Not Real (c)Equal Roots (d)Rational Roots
- (a)15 (b)Real (c)Not Equal Roots (d)Rational Roots
- (a)25 (b)Real (c)Not Equal Roots (d)Rational Roots

8) Quadratic Equation $3x^2 + 6x + 1 = 0$ Find the (a) Discriminant, (b) Real or Not Real Roots, (c) Equal (one) or Unequal Roots, (d) Rational or Irrational Roots?

- (a)-25 (b)Not Real Roots (c)Not Equal Roots (d)Irrational Roots
- (a)14 (b)Not Real (c)Equal Roots (d)Rational roots
- (a)24 (b)Real (c)Not Equal Roots (d)Rational roots
- (a)4 (b)Real (c)Not Equal Roots (d)Irrational Roots

9) Quadratic Functions $4x^2 + 7x - 2 = 0$ Find the (a) Discriminant, (b) Real or Not Real Roots, (c) Equal (one) or Unequal Roots, (d) Rational or Irrational Roots?

- (a)85 (b)Real (c)Not Equal Roots (d)Rational Roots
- (a)51 (b)Real (c)Equal Roots (d)Irrational Roots
- (a)81 (b)Real (c)Not Equal Roots (d)Irrational Roots
- (a)87 (b)Not Real (c)Not Equal Roots (d)Rational Roots

10) Quadratic Equation $2x^2 + 3x - 8 = 0$ Find the (a) Discriminant, (b) Real or Not Real Roots, (c) Equal (one) or Unequal Roots, (d) Rational or Irrational Roots?

- (a)73 (b)Real (c)Not Equal Roots (d)Irrational Roots
- (a)83 (b)Not Real (c)Equal Roots (d)Rational Roots
- (a)13 (b)Real (c)Equal Roots (d)Rational Roots
- (a)13 (b)Not Real (c)Equal Roots (d)Irrational Roots

11) Quadratic Equation $b^2 - 4ac > 0$ Find the Real or Not Real Roots and Equal (one) or Unequal Roots?

- Not Real,Not equal Roots
- Real,Not equal Roots
- Not Real,Equal Roots
- Real,Equal Roots

12) Quadratic Equation $b^2 - 4ac = 0$ Find the (a) Real or Not Real Roots, (b) Equal (one) or Unequal Roots?

- (a)Real (b)Equal
- (a)Not Real (b)Equal
- (a)Real (b)Not Equal
- (a)Not Real (b)Not Equal Roots

13) Quadratic Equation $b^2 - 4ac$

- Equal Roots
- None of these
- Not Real
- Real

14) Quadratic Equation $b^2 - 4ac$ is a perfect square the roots. Find the (a) Real or Not Real Roots (b) Equal (one) or Unequal Roots (c) Rational or Irrational Roots?

- (a)Not Real (b)Equal (c)Irrational Roots
- (a)Real (b)Equal (c)Irrational Roots
- (a)Real (b)Equal (c)Rational Roots
- (a)Real (b)Not equal (c)Rational Roots

15) Find the number of roots the following equations $x^2 + 5x + 6 = 0$

- No real roots
- Irrational roots
- Two real roots
- One real roots

16) Find the number of roots the following equations $x^2 + x + 1 = 0$?

- One non real roots
- Two real roots
- No roots
- Two non real roots

17) Find the number of roots the following equations $x^2 ? 2x + 3 = 0$?

- One real roots
- Two real roots

- Two non real roots
- One non real roots

18) Find the number of roots the following equations $x^2 ? 2x ? 3 = 0$?

- No roots
- Two real roots
- One non real roots
- One real roots

19) Find the number of roots the following equations $2x^2 ? 3x + 3 = 1$?

- One real roots
- One non real roots
- No roots
- Two non real roots

20) Find the number of roots the following equations: $x^2 + 6x + 9 = 0$?

- One non real roots
- Two non real roots
- One real roots
- Two real roots

21) Show that the line $y = 1 - x$ does not intersect with the graph of the curve $y = x^2 + x + 3$.

- Real roots
- One real root
- No real roots
- Irrational roots

22) Show that the line y = 2 - x does not intersect with the graph of the curve y = 3/ x ?

- No real roots
- Irrational roots
- Real roots
- Equal roots

23) Show that the line y = 4 - x intersects with the graph of the curve y = 4/x at one point only

- No real roots
- Irrational roots
- One real root
- Two real roots

24) Show that the line y = x intersects with the graph of the curve y = 9 / 6 - x at one point only

- One non real roots
- Two non real roots
- One real root
- Two real root

25) Show that the function $y = 3x^2 - 5x + 4$ is always positive for any value of x?

- 0
- No real solution
- 2
- 1

26) Find the range of values t can take for the equation $9x^2 + tx + 4 = 0$ to have two distinct real roots.

- t 15
- t 10
- t 16
- t 12

27) Find the range, or ranges, of values K can take for the equation Kx^2? 4x + (5 ? K) = 0 to have 2 distinct real roots.

- K 4
- K 5
- K 2
- K 7

28) Find the range(s) of values b can take for $9x^2 + bx + 4 = 0$ to have 2 real distinct roots

- b 10
- b 9
- b 11
- 12

29) Find the range(s) of values k can take for $x^2 + (k + 1)x + 1 = 0$ to have 2 distinct roots.

- k 5
- k 1
- k 1
- k 3

30) Find the range(s) of values k can take for $2x^2 + (3 - k)x + k + 3 = 0$ to have 2 real distinct roots.

- k 11
- k 10
- k 15
- k 12