

A2.A.2: Using the Discriminant 5: Use the discriminant to determine the nature of the roots of a quadratic equation

- 1 If a quadratic equation with real coefficients has a discriminant of 3, then the two roots must be
 - 1) real and rational
 - 2) real and irrational
 - 3) imaginary
 - 4) equal
- 2 If a quadratic equation with real coefficients has a discriminant of -2 , then its roots must be
 - 1) equal
 - 2) imaginary
 - 3) real and irrational
 - 4) real and rational
- 3 If $b^2 - 4ac < 0$, the roots of the equation $ax^2 + bx + c = 0$ must be
 - 1) real, irrational, and unequal
 - 2) real, rational, and unequal
 - 3) real, rational, and equal
 - 4) imaginary
- 4 The roots of the equation $x^2 - 2x - 2 = 0$ are
 - 1) real, rational, and equal
 - 2) real, rational, and unequal
 - 3) real, irrational, and unequal
 - 4) imaginary
- 5 The roots of the equation $2x^2 + 3x + 2 = 0$ are
 - 1) irrational and unequal
 - 2) imaginary
 - 3) rational and equal
 - 4) rational and unequal
- 6 The roots of the equation $2x^2 + 4x + 3 = 0$ are
 - 1) real, rational, and unequal
 - 2) real, irrational, and unequal
 - 3) real, rational, and equal
 - 4) imaginary
- 7 The roots of the equation $x^2 + 2x + 4 = 0$ are
 - 1) real, rational, and unequal
 - 2) imaginary and unequal
 - 3) rational and equal
 - 4) rational and unequal
- 8 The roots of the equation $x^2 + x + 1 = 0$ are
 - 1) real, rational, and unequal
 - 2) real, irrational, and unequal
 - 3) real, rational, and equal
 - 4) imaginary
- 9 The roots of the equation $x^2 + 7x - 8 = 0$ are
 - 1) real, rational, and equal
 - 2) real, rational, and unequal
 - 3) real, irrational, and equal
 - 4) imaginary
- 10 The roots of the equation $x^2 + 6x + 11 = 0$ are
 - 1) real, rational, and unequal
 - 2) real, rational, and equal
 - 3) real, irrational, and unequal
 - 4) imaginary

- 11 The roots of the equation $x^2 + 4x + 2 = 0$ are
1) real, rational, and equal
2) real, rational, and unequal
3) real, irrational, and unequal
4) imaginary
- 12 The roots of the equation $x^2 - 7x + 15 = 0$ are
1) imaginary
2) real, rational, and equal
3) real, rational, and unequal
4) real, irrational, and unequal
- 13 Which term describes the roots of the equation $2x^2 + 3x - 1 = 0$?
1) rational
2) irrational
3) equal
4) imaginary
- 14 The roots of the equation $x^2 - 6x + 7 = 0$ are
1) imaginary
2) real and irrational
3) real, rational, and unequal
4) real, rational, and equal
- 15 The roots of the equation $2x^2 + 6x + 5 = 0$ are
1) imaginary
2) real and irrational
3) real, rational, and unequal
4) real, rational, and equal
- 16 The roots of the equation $3x^2 - 4x - 5 = 0$ are
1) real, rational, and equal
2) real, rational, and unequal
3) real, irrational, and unequal
4) imaginary
- 17 The roots of the equation $2x^2 + 3x - 5 = 0$ are
1) real, rational, and unequal
2) real, rational, and equal
3) real, irrational, and unequal
4) imaginary
- 18 The roots of the equation $3x^2 - 7x = 5$ are
1) real, rational, and unequal
2) real, rational, and equal
3) real, irrational, and unequal
4) imaginary
- 19 The roots of the equation $-3x^2 = 5x + 4$ are
1) real, rational, and unequal
2) real, irrational, and unequal
3) real, irrational, and equal
4) imaginary
- 20 The roots of the quadratic equation $5x^2 - 2x = -3$ are
1) imaginary
2) real and irrational
3) real, rational, and unequal
4) real, rational, and equal
- 21 The roots of the quadratic equation $4x^2 = 2 + 7x$ are best described as
1) real, equal, and rational
2) real, unequal, and rational
3) real, unequal, and irrational
4) imaginary

A2.A.2: Using the Discriminant 5: Use the discriminant to determine the nature of the roots of a quadratic equation**Answer Section**

1	ANS: 2	REF: 089533siii
2	ANS: 2	REF: 018528siii
3	ANS: 4	REF: 019628siii
4	ANS: 3	REF: 068424siii
5	ANS: 2	REF: 018629siii
6	ANS: 4	REF: 018723siii
7	ANS: 2	REF: 068931siii
8	ANS: 4	REF: 089032siii
9	ANS: 2	REF: 069619siii
10	ANS: 4	REF: 069822siii
11	ANS: 3	REF: 019928siii
12	ANS: 1	REF: 010022siii
13	ANS: 2	REF: 060131siii
14	ANS: 2	REF: 010234siii
15	ANS: 1	REF: 060222siii
16	ANS: 3	REF: 060334siii
17	ANS: 1	REF: 080332siii
18	ANS: 3	REF: 010326siii
19	ANS: 4	REF: 069733siii
20	ANS: 1	REF: 069528siii
21	ANS: 2	REF: 089732siii