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1) The quadratic equation whose roots are 1 and

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

2) The quadratic equation whose one rational root is $3 + \sqrt{2}$ is

- a) $x^2 - 7x + 5 = 0$ b) $x^2 + 7x + 6 = 0$
c) $x^2 - 7x + 6 = 0$ d) $x^2 - 6x + 7 = 0$

3) The equation $2x^2 + kx + 3 = 0$ has two equal roots, then the value of k is

- a) $\pm\sqrt{6}$ b) ± 4
c) $\pm 3\sqrt{2}$ d) $\pm 2\sqrt{6}$

4) The sum of the roots of the quadratic equation $3x^2 - 9x + 5 = 0$ is

- a) 3 b) 6
c) -3 d) 2

5) If one root of the equation $x^2 + px + 12 = 0$ is 4, while the equation $x^2 + px + q = 0$ has equal roots, the value of q is

- a) $\frac{49}{4}$ b) $\frac{4}{49}$
c) 4 d) 49

6) If a, p are the roots of the equation $(x - a)(x - b) + c = 0$, then the roots of the equation $(x - a)(x - p) = c$ are

- a) a, b b) a, c
c) b, c d) none of these

7) Mohan and Sohan solve an equation. In solving Mohan commits a mistake in constant term and finds the roots 8 and 2. Sohan commits a mistake in the coefficient of x. The correct roots are

- a) 9, 1 b) -9, 1
c) 9, -1 d) -9, -1

8) If the roots of $px^2 + qx + 2 = 0$ are reciprocal of each other, then

- a) $P = 0$ b) $p = -2$
c) $p = \pm 2$ d) $p = 2$

9) If one root of the quadratic equation $2x^2 + kx - 6 = 0$ is 2, the value of k is

- a) 1 b) -1
c) 2 d) -2

10) The roots of the equation $7x^2 + x - 1 = 0$ are

- a) real and distinct
b) real and equal
c) not real
d) none of these

11) The equation $12x^2 + 4kx + 3 = 0$ has real and equal roots, if

- a) $k = \pm 3$ b) $k = \pm 9$
c) $k = 4$ d) $k = \pm 2$

12) If -5 is a root of the quadratic equation $2x^2 + px - 15 = 0$, then





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a) $p = 3$

b) $p = 5$

a) 25, 30

b) 10, 15

c) $p = 7$

d) $p = 1$

c) 30, 35

d) 15, 20

13) If the roots of the equations $ax^2 + 2bx + c = 0$ and $bx^2 - 2\sqrt{ac}x + b = 0$ are simultaneously real, then

a) $b = ac$

b) $b^2 = ac$

c) $a^2 = bc$

d) $c^2 = ab$

14) The roots of the equation $(b - c)x^2 + (c - a)x + (a - b) = 0$ are equal, then

a) $2a = b + c$

b) $2c = a + b$

c) $b = a + c$

d) $2b = a + c$

15) The roots of quadratic equation $5x^2 - 4x + 5 = 0$ are

a) Real & Equal

b) Real & Unequal

c) Not real

d) Non-real and equal

16) Equation $(x+1)^2 - x^2 = 0$ has _____ real root(s).

a) 1

b) 2

c) 3

d) 4

17) A natural number, when increased by 12, equals 160 times its reciprocal. Find the number.

a) 3

b) 8

c) 4

d) 7

18) The product of two successive integral multiples of 5 is 300. Then the numbers are:

19) If $p^2x^2 - q^2 = 0$, then $x = ?$

a) $\pm q/p$

b) $\pm p/q$

c) p

d) q

20) The positive root of $\sqrt{3x^2 + 6} = 9$ is:

a) 3

b) 5

c) 4

d) 7

21) Roots of a quadratic equation are real when discriminant is _____

a) zero

b) greater than zero

c) less than zero

d) greater than or equal to zero

22) Roots of a quadratic equation are imaginary when discriminant is _____

a) zero

b) greater than zero

c) less than zero

d) greater than or equal to zero

23) Solve $x^2 + 1 = 0$.

a) $x = 1, -1$

b) $x = i, -i$

c) $x = -1$

d) $x = i$

24) The quadratic equation $2x^2 - \sqrt{5}x + 1 = 0$ has





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a) two distinct real roots

b) two equal real roots

c) no real roots

d) more than 2 real roots

a) -2

b) 2

c) $\frac{1}{4}$

d) $\frac{1}{2}$

25) If $x = 0.2$ is a root of the equation $x^2 - 0.4k = 0$, then $k =$

a) 1

b) 10

c) 0.1

d) 100

30) If p and q are the roots of the equation $x^2 - px + q = 0$, then

a) $p = 1, q = -2$

b) $b = 0, q = 1$

c) $p = -2, q = 0$

d) $p = -2, q = 1$

26) If a and b can take values 1, 2, 3, 4. Then the number of the equations of the form $ax^2 + bx + 1 = 0$ having real roots is

a) 10

b) 7

c) 6

d) 12

27) The number of quadratic equations having real roots and which do not change by squaring their roots is

a) 4

b) 3

c) 2

d) 1

28) The discriminant of the quadratic equation $(x + 2)^2 = 0$ is

a) -2

b) 2

c) 4

d) 0

29) If $-\frac{1}{2}$ is a root of the equation $x^2 - kx - \frac{5}{4} = 0$, then the value of k is

