

# D.P.P Quadratic Equation

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Q.1 The roots of the equation  $x^{\frac{2}{3}} + x^{\frac{1}{3}} - 2 = 0$ , are

- (a) 1, 4 (b) 1, -4 (c) 1, -8 (d) 1, 8

Ans: (c)

Q.2 The roots of the equation  ~~$x^2 + 1 = \sqrt{x}$~~

$$\sqrt{3x+1} + 1 = \sqrt{x}$$

- (a) 0 (b) 1 (c) 0, 1 (d) N.O.T

Ans: (d)

Q.3 The roots of the equation  $3^{2x} - 10 \cdot 3^x + 9 = 0$ , are

- (a) 1, 2 (b) 0, 2 (c) 0, 1 (d) 1, 3

Ans: (b)

Q.4 If  $x^2 + y^2 = 25$ ,  $xy = 12$ , then  $x =$

- (a)  $\{3, 4\}$  (b)  $\{3, -3\}$  (c)  $\{3, 4, -3, -4\}$  (d)  $\{-3, -3\}$

Ans: (c)

Q.5 Let one root of  $ax^2 + bx + c = 0$ , where  $a, b, c$  are integers be  $3 + \sqrt{5}$ , then the other root is

- (a)  $3 - \sqrt{5}$  (b) 3 (c)  $\sqrt{5}$  (d) N.O.T

Ans: (a)

Q.6 If the equation  $x^2 - (2+m)x + (m^2 - 4m + 4) = 0$  in  $x$  has equal roots, then the values of  $m$  are

- (a)  $\frac{2}{3}, 1$  (b)  $\frac{2}{3}, 6$  (c) 0, 1 (d) 0, 2 (e)  $\frac{2}{3}, 0$

Ans: (b)

Q.7 The equation  $e^x + x - 1 = 0$  has, apart from  $x=0$

- (a) One other real root (b) Two real roots  
(c) No other real root (d) Infinite No. of real root

Ans: (c)

Q.8 The roots of the Quadratic equation  $2x^2 + 3x + 1 = 0$ , are

- (a) Irrational (b) Rational (c) Imaginary (d) N.O.T

Ans: (b)

Q.9 If one root of  $5x^2 + 13x + K = 0$  is reciprocal of the other, then  $K =$

- (a) 0 (b) 5 (c)  $1/6$  (d) 6

Ans: (b)

Q.10 If  $\alpha, \beta$  are the roots of the equation  $x^2 + ax + b = 0$ , then  $\frac{1}{\alpha^2} + \frac{1}{\beta^2} =$

- (a)  $\frac{a^2 - 2b}{b^2}$  (b)  $\frac{b^2 - 2a}{b^2}$  (c)  $\frac{a^2 + 2b}{b^2}$  (d)  $\frac{b^2 + 2a}{b^2}$

Ans: (a)

Q.11 If  $\alpha, \beta$  are roots of  $x^2 - 3x + 1 = 0$ , then the equation whose roots are  $\frac{1}{\alpha-2}, \frac{1}{\beta-2}$  is

- (a)  $x^2 + x + 1 = 0$  (b)  $x^2 + x + 1 = 0$   
(c)  $x^2 - x - 1 = 0$  (d) N.O.T

Ans: (c)

Q.12 if  $\alpha, \beta$  are the roots of  $3x^2 + 6x + 1 = 0$ ,  
then the equation with roots  $\frac{1}{\alpha}, \frac{1}{\beta}$  is

(a)  $2x^2 + 3x + 18 = 0$

(b)  $x^2 + 6x - 9 = 0$

(c)  $x^2 + 6x + 9 = 0$

(d)  $x^2 - 6x + 9 = 0$

Ans: (c)

Q.13 The equation whose roots are reciprocal of the roots of the equation  $3x^2 - 20x + 17 = 0$  is

(a)  $3x^2 + 20x - 17 = 0$

(b)  $17x^2 - 20x + 3 = 0$

(c)  $17x^2 + 20x + 3 = 0$

(d) N.O.T

Ans: (b)

Q.14 if  $\alpha + \beta = -2$  and  $\alpha^3 + \beta^3 = -56$ , then the quadratic equation whose roots are  $\alpha$  and  $\beta$  is

(a)  $x^2 + 2x - 16 = 0$

(b)  $x^2 + 2x + 15 = 0$

(c)  $x^2 + 2x - 12 = 0$

(d)  $x^2 + 2x - 8 = 0$

Ans: (d)

Q.15 if  $ax^2 + bx + c = 0$  and  $bx^2 + cx + a = 0$  have a common root  $a \neq 0$ , then  $\frac{a^3 + b^3 + c^3}{abc} =$

(a) 1

(b) 2

(c) 3

(d) N.O.T

Ans: (c)

Q.16 if the equation  $x^2 + px + q = 0$  and  $x^2 + qx + p = 0$ , have a common root, then  $p + q + 1 = ?$

(a) 0

(b) 1

(c) 2

(d) -1



Q.17 if  $x$  be real, then the Maximum value of  $5+4x-4x^2$  will be equal to

- (a) 5      (b) 6      (c) 1      (d) 2

Ans: (b)

Q.18 The Maximum possible Number of real roots of equation  $x^2+x+1$  is

- (a) 0      (b) 1      (c) 2      (d) N.O.T

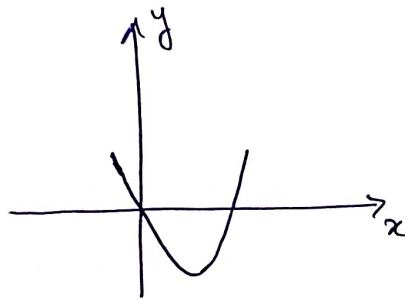
Ans: (a)

Q.19 if  $x$  is real, then the Maximum and Minimum values of the Expression  $\frac{x^2-3x+4}{x^2+3x+4}$  will be

- (a) 2, 1      (b)  $5, \frac{1}{5}$       (c)  $7, \frac{1}{7}$       (d) N.O.T

Ans: (c)

Q.20 In given figure ~~and~~, comment on sign of  $a, b, c$  &  $D$ .



- (a)  $a, b, c > 0$  ,  $D < 0$   
(b)  $a > 0$  ,  $b < 0$  ,  $c = 0$  ,  $D > 0$   
(c)  $a > 0$  ,  $b > 0$  ,  $c < 0$  ,  $D > 0$   
(d)  $a > 0$  ,  $b > 0$  ,  $c < 0$  ,  $D < 0$

Ans: (b) Follow us at : [f/Leetcoaching](#) [ig/Leetcoaching](#) [t/Leetcoaching](#) [y/Leetcoaching](#) [t/Leetcoaching](#)