

## ECAT Mathematics Chapter 6 Quadratic Equations

Sr	Questions	Answers Choice
1	The condition for $ax^2 + bx + c$ to be expressed as the product of linear polynomials is	A. $b^2 - 4ac = 0$ B. $b^2 - 4ac \geq 0$ C. $b^2 - 4ac < 0$ D. $b^2 = 4ac$
2	Both the roots of the equation $(x - b)(x - c) + (x - c)(x - a) + (x - a)(x - b) = 0$ are always	A. Positive B. Negative C. Real D. None of these
3	Question Image <input style="width: 500px; height: 20px;" type="text"/>	A. 0 B. 1 C. 2 D. None of these
4	If $a > 0, b > 0, c > 0$ , then the roots of the equation $ax^2 + bx + c = 0$ are	A. Real and negative B. Non-real with negative real parts C. Real and positive D. Nothing can be said
5	If the roots of $3x^2 + kx + 12 = 0$ are equal then $k =$ _____	
6	The set of real roots of the equation $\log_{(5x+4)}(2x+3)^3 - \log_{(2x+3)}(10x^2 + 23x + 12) = 1$ is	A. $\{-1\}$ B. $\{-3/5\}$ C. Empty set D. $\{-1/3\}$
7	Question Image <input style="width: 500px; height: 20px;" type="text"/>	
8	If $x^3 - x^2 + 5x + 4$ is divided by $x - 2$ , then the remainder is	A. 0 B. 2 C. 18 D. 14
9	The roots of the equation $2^{2x} \cdot 10 \cdot 2^x + 16 = 0$ are	A. 2, 8 B. 1, 3 C. 1, 8 D. 2, 3
10	The discriminant of the quadratic equation $ax^2 + bx + c = 0$ is	A. $b^2 - 4ac$ B. $b^2 - 4ac$ C. $4ac - b^2$ D. $a^2 - 4ac$
11	The vertex of the graph of the quadratic function $f(x) = x^2 - 10$ , is	A. (0, -10) B. (-10, 0) C. (10, 0) D. (0, 10)
12	The value of $k$ ( $k > 0$ ) for which the equation $x^2 + kx + 64 = 0$ and $x^2 - 8x + k = 0$ both will have real roots is	A. 8 B. -16 C. -64 D. 16
13	Question Image <input style="width: 500px; height: 20px;" type="text"/>	
14	The roots of the equation $x^2 + 6x - 7 = 0$ , are	A. 1 B. 2 C. 1 and -7 D. -7
15	$2x^3 + 3x + 9$ is a _____	A. Polynomial of degree 3 B. Quadratic equation C. Cubic equation D. Polynomial of degree 2
16	Question Image <input style="width: 500px; height: 20px;" type="text"/>	A. 0 B. 1 C. 2 D. 3
17	$w^{11} =$ _____	A. 0 B. 1 C. w D. $w^{11}$

D.  $w^2$

18 The standard form of the quadratic function  $f(x) = -x^2 + 4x + 2$ , is

- A.  $(x-2)^2 + 6$
- B.  $-(x-2)^2 + 6$
- C.  $(x-3)^2 + 5$
- D.  $(x+4)^2 - 7$

19  $w^{-1} =$  \_\_\_\_\_

- A. 0
- B. 1
- C. w
- D.  $w^2$

20 If  $ax + bx + c = 0$  is satisfied by every value of x, then

- A.  $b = 0, c = 0$
- B.  $c = 0$
- C.  $b = 0$
- D.  $a = b = c = 0$