

## ECAT Mathematics Chapter 6 Quadratic Equations

Sr	Questions	Answers Choice
1	If $a > 0, b > 0, c > 0$ , then the roots of the equation $ax^2 + bx + c = 0$ are	A. Real and negative <b>B. Non-real with negative real parts</b> C. Real and positive D. Nothing can be said
2	If $\sin\alpha$ and $\cos\alpha$ are the roots of the equation $px^2 + qx + r = 0$ , then	A. $p^2 + q^2 - r^2 + 2pr = 0$ B. $(p + r)^2 - r^2 = 0$ C. $p^2 + q^2 + r^2 - 2pr = 0$ D. $(p - r)^2 - r^2 = 0$
3	Question Image <input style="width: 100%; height: 15px;" type="text"/>	
4	The quadratic formula is	
5	Let the equation $ax^2 - bx + c = 0$ have distinct real roots both lying in the open interval $(0, 1)$ where $a, b, c$ are given to be positive integers. Then the value of the ordered triplet $(a, b, c)$ can be	A. (5, 3, 1) B. (4, 3, 2) <b>C. (5, 5, 1)</b> D. (6, 4, 1)
6	If $x^3 + 4x^3 - 2x + 5$ is divided by $x - 1$ , then the remainder is	<b>A. 8</b> B. 6 C. 4 D. None of these
7	Sum of all the four fourth roots of unity is	A. 1 B. -1 C. i <b>D. 0</b>
8	Question Image <input style="width: 100%; height: 15px;" type="text"/>	A. Linear equation <b>B. Quadratic equation</b> C. Cubic equation D. None of these
9	Question Image <input style="width: 100%; height: 15px;" type="text"/>	A. Polynomial of degree 0 B. Polynomial of degree 1 C. Polynomial of degree 2 <b>D. Polynomial of degree n</b>
10	The roots of the equations will be equal if $b^2 - 4ac$ is	A. Positive B. Negative C. 1 <b>D. Zero</b>
11	$w^{-1} = \underline{\hspace{2cm}}$	A. 0 <b>B. 1</b> C. w D. $w^2$
12	The root of the quadratic equation are	A. 3 <b>B. 2</b> C. 1 D. 4
13	A polynomial of arbitrary degree	<b>A. <math>f(x) = 0</math></b> B. $f(x) = x$ C. $f(x) = a$ D. $f(x) = ax + b, a \neq 0$
14	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 <b>D. Nothing can be said</b>
15	$w^{29} = \underline{\hspace{2cm}}$	A. 0 B. 1 C. w <b>D. <math>w^2</math></b>
16	The value of $p$ for which both the roots of the equation $4x^2 - 20x + (25p^2 + 15p - 66) = 0$ are	

	less than 2, lies in	
17	In a quadratic equation with leading co-efficient 1, a student reads the co-obtain the roots as - 15 and -4. The correct roots are	<p>A. 6, 10</p> <p>B. -6, -10</p> <p>C. 8, 8</p> <p>D. -8, -8</p>
18	The roots of the equation $ax^2 + bx + c = 0$ are real and equal if	<p>A. <math>b^2 - 4ac &lt; 0</math></p> <p>B. <math>b^2 - 4ac = 0</math></p> <p>C. <math>b^2 - 4ac &gt; 0</math></p> <p>D. None of these</p>
19	$(x-1)$ is a factor of	<p>A. <math>2x^3 - 3x^2 + 9</math></p> <p>B. <math>2x^3 - 5x - 8</math></p> <p>C. <math>48x^2 - 46x - 9</math></p> <p>D. <math>x^9 - 1</math></p>
20	Question Image <input type="text"/>	<p>A. 0</p> <p>B. <math>-1 - w^2</math></p>