

ECAT (Pre-Eng) Mathematics Chapter 6 Quadratic Equations

Sr	Questions	Answers Choice
1	$w^{11} = \underline{\hspace{2cm}}$	A. 0 B. 1 C. w D. w^{11}
2	The vertex of the graph of the quadratic function $f(x) = -x^2 + 6x + 1$, is	A. (-3, 10) B. (-3, -10) C. (3, 10) D. (3, -10)
3	If $x^2 + px + 1$ is a factor of $ax^3 + bx + c$, then	A. $a^2 + c^2 = -ab$ B. $a^2 - c^2 = -ab$ C. $a^2 - c^2 = ab$ D. None of these
4	The roots of the equation $ax^2 + bx + c = 0$ are real and equal if	A. $b^2 - 4ac < 0$ B. $b^2 - 4ac = 0$ C. $b^2 - 4ac > 0$ D. None of these
5	Question Image	
6	If α, β are non-real roots of $ax^2 + bx + c = 0$ ($a, b, c \in \mathbb{Q}$), then	A. $\alpha = \beta$ B. $\alpha\beta = 1$ C. $\alpha = \beta$ D. $\alpha = 1$
7	The roots of the equation $4x^3 - 3.2x^2 + 32 = 0$ would include	A. 1 and 3 B. 1 and 4 C. 1 and 2 D. 2 and 3
8	If one root of the equation $ix^2 - 2(i + 1)x + (2 - i) = 0$ is $2 - i$, then the other root is	A. -i B. $2 + i$ C. i D. $2 - i$
9	Question Image	A. 15 B. 9 C. 7 D. 8
10	The minimum value of the quadratic function $f(x) = x^2 + 6x - 2$, is	A. 11 B. 6 C. -11 D. 13
11	Roots of the equation $9x^2 - 12x + 4 = 0$ are	A. Real and equal B. Real and distinct C. Complex D. None of these
12	if one root of the equation $ix^2 - 2(i + 1)x + (2 - i) = 0$ is $2 - i$ then the other root is	A. -i B. $2 + i$ C. i D. $2 - i$
13	$w^{11} = \underline{\hspace{2cm}}$	A. 0 B. 1 C. w D. w^{11}
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 D. Nothing can be said
15	The solution set of $x^2 - 5x + 6 = 0$ is	A. {1, 3} B. {2, 3} C. {1, 2} D. None of these

16	Consider the equation $px^2 + qx + r = 0$ where p, q, r are real. The roots are equal in magnitude but opposite in sign when	<p>A. $q = 0, r = 0, p \neq 0$</p> <p>B. $p = 0, qr \neq 0$</p> <p>C. $r = 0, pq \neq 0$</p> <p>D. $q = 0, pq \neq 0$</p>
17	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	
18	The discriminant of the quadratic equation $ax^2 + bx + c = 0$ is	<p>A. $b^2 + 4ac$</p> <p>B. $b^2 - 4ac$</p> <p>C. $4ac - b^2$</p> <p>D. $a^2 - 4ac$</p>
19	If $b^2 - 4ac$ is positive then the roots of the equation are	<p>A. Real</p> <p>B. Imaginary</p> <p>C. Positive</p> <p>D. Negative</p>
20	The roots of $(x - a)(x - b) = abx^2$ are always	<p>A. Real</p> <p>B. Depends upon a</p> <p>C. Depends upon b</p> <p>D. Depends upon a and b</p>