

ECAT (Pre-Eng) Mathematics Chapter 6 Quadratic Equations

Sr	Questions	Answers Choice
1	If one root of $5x^2 + 13x + k = 0$ be the reciprocal of the other root the value of k is	A. 0 B. 2 C. 1 D. 5
2	Roots of the equation $9x^2 - 12x + 4 = 0$ are	A. Real and equal B. Real and distinct C. Complex D. None of these
3	If $\sin\alpha$ and $\cos\alpha$ are the roots of the equation $px^2 + qx + r = 0$, then	A. $p^2 + q^2 + r^2 = 2pr$ B. $(p + r)^2 = q^2 + r^2$ C. $p^2 + q^2 + r^2 = 2pr$ D. $(p - r)^2 = q^2 + r^2$
4	If the roots of $x^2 + ax + b = 0$ are non-real, then for all real x, $x^2 + ax + b$ is	A. Negative B. Positive C. Zero D. Nothing can be said
5	The roots of the equation $ax^2 + bx + c = 0$ are complex/imaginary if	A. $b^2 - 4ac < 0$ B. $b^2 - 4ac = 0$ C. $b^2 - 4ac > 0$ D. None of these
6	If $x^3 - x^2 + 5x + 4$ is divided by $x - 2$, then the remainder is	A. 0 B. 2 C. 18 D. 14
7	Question Image <input style="width: 500px; height: 20px;" type="text"/>	A. Only one real solution B. Exactly three real solution C. Exactly one rational solution D. Non-real roots
8	Question Image <input style="width: 500px; height: 20px;" type="text"/>	A. Reciprocal equation B. Exponential equation C. Radical equation D. None of these
9	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	A. $q = 0, r = 0, p \neq 0$ B. $p = 0, qr \neq 0$ C. $r = 0, pq \neq 0$ D. $q = 0, pq \neq 0$
10	$w^7 =$ _____	A. 0 B. 1 C. w D. w^2
11	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
12	If the roots of $ax^2 + bx + c = 0$ are equal in magnitude but opposite in sign, then	A. $a = 0$ B. $b = 0$ C. $c = 0$ D. None of these
13	Question Image <input style="width: 500px; height: 20px;" type="text"/>	A. Lies between 4 and 7 B. Lies between 5 and 9 C. Has no value between 4 and 7 D. Has no value between 5 and 9
14	The roots of $(x - a)(x - b) = abx^2$ are always	A. Real B. Depends upon a C. Depends upon b D. Depends upon a and b

15	If $ax^2 + bx + x = 0$ is satisfied by every value of x , then	A. $b = 0, c = 0$ B. $c = 0$ C. $b = 0$ D. $a = b = c = 0$
16	The condition for polynomial equation $ax^2 + bx + c = 0$ to be quadratic is	
17	If the roots of $ax^2 + b = 0$ are real and distinct then	A. $ab > 0$ B. $a = 0$ C. $ab < 0$ D. $a > 0, b > 0$
18	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
19	If $a(p + q)^2 + bpq + c = 0$ and $a(p + r)^2 + 2bpr + c = 0$, then qr equals	A. $p^2 + c/a$ B. $p^2 + a/c$ C. $p^2 + c/a$ D. $p^2 - c/a$
20	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. $(3, -10)$