



INDIAN SCHOOL AL WADI AL KABIR
WORKSHEET 2026-27

CLASS X

QUADRATIC EQUATIONS_MCQ_WORKSHEET

Questions of 1 mark each

Q.1.	if $\frac{x}{12} - \frac{3}{x} = 0$, then the values of x are			
	A) ± 6	B) ± 4	C) ± 12	D) ± 3
Q.2.	The discriminant of the quadratic equation $bx^2 + ax + c = 0$, $b \neq 0$ is given by:			
	A) $a^2 - 4bc$	B) $\sqrt{a^2 - 4bc}$	C) $\sqrt{b^2 - 4ac}$	D) $b^2 - 4ac$
Q.3.	Which of the following quadratic equations has real and equal roots?			
	A) $x^2 + x + 1 = 0$	B) $x^2 - 4 = 0$	C) $x^2 + x = 0$	D) $(x + 1)^2 = 2x + 1$
Q.4.	If the roots of quadratic equation $4x^2 - 5x + k = 0$ are real and equal, then the value of k is			
	A) $-\frac{25}{16}$	B) $-\frac{5}{4}$	C) $\frac{25}{16}$	D) $\frac{5}{4}$
Q.5.	If the roots of equation $ax^2 + bx + c = 0$, $a \neq 0$ are real and equal, then which of the following relations is true?			
	A) $c = b^2/c$	B) $ac = b^2/4$	C) $b^2 = ac$	D) $a = b^2/c$
Q.6.	The least positive value of k for which the quadratic equation $2x^2 + kx + 4 = 0$ has real roots is			
	A) $\sqrt{2}$	B) ± 2	C) $4\sqrt{2}$	D) $\pm 2\sqrt{2}$
Q.7.	The roots of the equation $x^2 + 3x - 10 = 0$ are:			
	A) 2, -5	B) -2, 5	C) 2, 5	D) -2, -5
Q.8.	The real roots of the equation $x^{\frac{2}{3}} + x^{\frac{1}{3}} - 2 = 0$ are:			
	A) 1, 8	B) -1, 8	C) -1, -8	D) 1, -8
Q.9.	The discriminant of the quadratic equation $(x + 5)^2 = 2(5x - 3)$ is:			
	A) 5	B) 124	C) -5	D) -124
Q.10.	The value(s) of k for which the quadratic equation $2x^2 + kx + 2 = 0$ has equal roots, is			
	A) 4	B) ± 4	C) -4	D) 0
Q.11.	The product of Amit's age, 3 years ago with his age 5 years later is 48, then Amit's present age is:			
	A) 9	B) 7	C) 8	D) 6
Q.12.	If the equation $x^2 - kx + 4 = 0$ does not have real roots, then:			
	A) $k > 4$	B) $k < -4$	C) $-4 < k < 4$	D) $-2 < k < 2$
Q.13.	If the roots of the equation $p^2x^2 + 2x(pr - 2q) + r^2 = 0$ are equal, then r is:			

	A) $2pq$	B) $\frac{q}{p}$	C) pq^2	D) $\frac{p}{q}$			
Q.14.	The quadratic equation $3x^2 - \sqrt{7}x + 1 = 0$ has:						
	A) two distinct real roots	B) two equal real roots	C) no real roots	D) more than two real roots			
Q.15.	The positive root of $\sqrt{2x^2 + 8} = 6$ is:						
	A) $\sqrt{18}$	B) 2	C) $\sqrt{14}$	D) 4			
Q.16.	Which of the following has 3 as a root?						
	A) $x^2 - 5x + 4 = 0$	B) $x^2 - 2x - 3 = 0$	C) $2x^2 - 5x + 1 = 0$	D) $3x^2 - 6x - 5 = 0$			
Q.17.	Assertion (A): For $m = 2$, the quadratic equation $(m - 1)x^2 + 2(m - 1)x + 1 = 0$ has two real and equal roots. Reason (R): A quadratic equation $ax^2 + bx + c = 0$ has two real and equal roots if and only if its discriminant $D = b^2 - 4ac$ is equal to zero.						
Q.18.	Assertion: Values of x are $\frac{-a}{2}$, a for a quadratic equation $2x^2 + ax - a^2 = 0$. Reason: For quadratic equation $ax^2 + bx + c = 0$, $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$.						
Q.19.	Assertion: The roots of the quadratic equation $x^2 + 2x + 2 = 0$ are not real. Reason: If discriminant $b^2 - 4ac < 0$, then the roots of the equation $ax^2 + bx + c = 0$ are not real.						
Q.20.	Assertion (A): The values of x are 2 and -3 for the quadratic equation $x^2 + x - 6 = 0$. Reason (R): For a quadratic equation $ax^2 + bx + c = 0$, the roots are given by $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$.						
ANSWER KEY							
Q.1.	A) ± 6	Q.6.	C) $4\sqrt{2}$	Q.11.	B) 7	Q.16.	B) $x^2 - 2x - 3 = 0$
Q.2.	A) $a^2 - 4bc$	Q.7.	A) 2, -5	Q.12.	C) $-4 < k < 4$	Q.17.	A
Q.3.	D) $(x + 1)^2 = 2x + 1$	Q.8.	D) 1, -8	Q.13.	$\frac{q}{p}$ B) $\frac{p}{q}$	Q.18.	D
Q.4.	C) $\frac{25}{16}$	Q.9.	D) -124	Q.14.	C) no real roots	Q.19.	A
Q.5.	B) $ac = b^2/4$	Q.10.	B) ± 4	Q.15.	C) $\sqrt{14}$	Q.20.	A