



INDIAN SCHOOL AL WADI AL KABIR

Class X, Mathematics

Worksheet-Quadratic Equations

Questions of 1 Mark each. (MCQ's)

1.	The roots of the quadratic equation $y^2 - 0.0025 = 0$ are							
A	± 0.005	B	± 5	C	± 0.5	D	± 0.05	
2.	The roots of the given equation $x^4 - 26x^2 + 25 = 0$ are							
A	$\pm 5, \pm 1$	B	$5, -1$	C	$\pm 3, \pm 2$	D	$3, 2$	
3.	Which of the following has 2 as a root?							
A	$x^2 - 4x + 5 = 0$			B	$x^2 - 3x - 12 = 0$			
C	$2x^2 - 7x + 6 = 0$			D	$3x^2 - 6x - 2 = 0$			
4.	What are the values of k for which the quadratic equation $2x^2 - kx + k = 0$ has equal roots?							
A	1 and 2	B	0 and 8	C	4 and 8	D	0 and -8	
5.	If $\sin \alpha$ and $\cos \alpha$ are the roots of the equation $ax^2 + bx + c = 0$, then b^2 is							
A	$c^2 + 2ac$	B	$a^2 + ac$	C	$a^2 + 2ac$	D	$c^2 + ac$	
6.	The product of three consecutive integers is equal to 6 times the sum of the three integers. If the smallest integer is x , which of the following equations represent the above situation?							
A	$2x^2 + x - 9 = 0$	B	$2x^2 - x + 9 = 0$	C	$x^2 + 2x + 18 = 0$	D	$x^2 + 2x - 18 = 0$	
7.	The discriminant of the quadratic equation $(x + 5)^2 = 2(5x - 3)$ is							
A	5	B	124	C	-5	D	-124	
8.	If the equation $x^2 - mx + 1 = 0$ does not possess real roots, then							
A	$m > 2$	B	$m < -2$	C	$-2 < m < 2$	D	$-3 < m < 3$	

9.	If Zeba was younger by 5 years than what she really is, then the square of her age (in years) would have been 11 more than five times her actual age. What is her age now?							
	A	14 years	B	16 years	C	10 years	D	24 years
10.	The difference of square of two numbers is 45 and square of the smaller is 4 times the larger number, then the two numbers are							
	A	4, -6	B	4, ± 6	C	9, -6	D	9, ± 6
11.	If a 2-digit number is such that the product of its digits is 18. When 63 is subtracted from the number, the digits interchange their places, then the number is							
	A	102	B	192	C	92	D	98
12.	The power P in megawatt (MW), produced between mid-night and noon by a nuclear power plant is given by $P = 3x^2 - 42x + 349$, where x is the hours of the day. At what time is the power 250 MW?							
	A	3 a.m., 11 a.m.	B	2 a.m., 11 a.m.	C	2 a.m., 6 a.m.	D	5 a.m., 6 a.m.
13.	The quadratic equation $2x^2 - \sqrt{5}x + 1 = 0$ has							
	A	two distinct real roots	B	two equal real roots	C	no real roots	D	more than two real roots
14.	The value(s) of k for which the equation $x^2 + 5kx + 16 = 0$ has real and equal roots							
	A	± 12	B	$-\frac{6}{5}$	C	$\frac{2}{3}, \frac{-2}{3}$	D	$\frac{8}{5}, \frac{-8}{5}$
15.	At t minutes past 2 p.m. the time needed by the minutes hand of a clock to show 3 p.m. was found to be 3 minutes less than $\frac{t^2}{4}$ minutes, then the value of t is							
	A	14	B	104	C	19	D	30
DIRECTION: In the following questions, a statement of assertion (A) is followed by statement of Reason (R) . Choose the correct option								
<p>(a) Both assertion (A) and reason (R) are true and reason (R) is the correct explanation of assertion (A)</p> <p>(b) Both assertion (A) and reason (R) are true and reason (R) is not the correct explanation of assertion (A)</p> <p>(c) Assertion (A) is true but reason (R) is false.</p> <p>(d) Assertion (A) is false but reason (R) is true.</p>								

16.	Assertion(A): If one root of the quadratic equation $6x^2 - x - k = 0$ is $\frac{2}{3}$, then the value of k is 2. Reason(R): The quadratic equation $ax^2 + bx + c = 0, a \neq 0$ has almost two roots.
17.	Assertion(A): The equation $x^2 + 3x + 1 = (x - 2)^2$ is a quadratic equation. Reason (R): Any equation of the form $ax^2 + bx + c = 0, a \neq 0$ is called a quadratic equation.
18.	Assertion(A): The roots of the quadratic equation $x^2 + 2x + 2 = 0$ are not real roots. Reason(R): If discriminant $D = b^2 - 4ac < 0$ then the roots of the quadratic equation $ax^2 + bx + c = 0$ are not real.
19.	Assertion(A): If roots of the equation $x^2 - bx + c = 0$ are two consecutive integers, then $b^2 - 4c = 1$. Reason(R): If a, b, c are odd integer then the roots of the equation $4abcx^2 + (b^2 - 4ac)x - b = 0$ are real and distinct.
20.	Assertion(A): Values of x are $\frac{-a}{2}, a$ for a quadratic equation $2x^2 + ax - a^2 = 0$. Reason(R): For quadratic equation $ax^2 + bx + c = 0, x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$.

Answers

1	D	2	A	3	C	4	B
5	C	6	D	7	D	8	C
9	A	10	D	11	C	12	A
13	C	14	D	15	A	16	b
17	d	18	a	19	b	20	d