INDIAN SCHOOL AL WADI AL KABIR

Department: Mathematics

Class IX **Worksheet –Polynomials (MCQ)** **20th Nov 2024**

Questions of 1 Mark each.

1.	Which one of the following is a polynomial?							
	A	$\frac{x^2}{2}-\frac{2}{x^2}$	**B**	$\sqrt{2x}-1$	**C**	$x^2+\frac{3x^{\frac{3}{2}}}{\sqrt{x}}$	**D**	$\frac{x-1}{x+1}$
2.	If x^{11} + 101 is divided by $x+1$, the remainder is:							
	A	101	**B**	100	**C**	-101	**D**	-100
3.	The value of $249^2 - 248^2$ is:							
	A	1	**B**	487	**C**	477	**D**	497
4.	The coefficient of x in the expansion of $(x-7)^3$is:							
	A	2	**B**		**C**	147	**D**	21
5.	Zero of the polynomial $p(x)=2x+3$ is:							
	A	-3	**B**	0	**C**	$\frac{3}{2}$	**D**	$\frac{-3}{2}$
6.	For what value of k, $(y+1)$ is a factor of $p(y)=ky^2-y-4$?							
	A	-3	**B**	3	**C**	1	**D**	0
7.	Find the value of $x^2+\frac{1}{x^2}$, if $x-\frac{1}{x}=7$.							
	A	48	**B**	52	**C**	51	**D**	47
8.	Find the value of $(-57)^3+(29)^3+(28)^3$ using identity.							
	A	-138852	**B**	138852	**C**	138952	**D**	139952
9.	Find the value of: $\frac{0.87\times0.87\times0.87+0.13\times0.13\times0.13}{0.87\times0.87-0.87\times0.13+0.13\times0.13}$							
	A	-1	**B**	0	**C**	1	**D**	0.74
10.	$(x+1)$ is a factor of the polynomial							
	A	x^3+x^2-x+1	**B**	x^3+x^2+x+1	**C**	x^3+x^2-x-1	**D**	x^3+x^2-2x+1
11.	Degree of the zero polynomial is :							
	A	0	**B**	1	**C**	*any natural number*	**D**	*not defined*
12.	One of the zeroes of the polynomial $2x^2+7x-4$ is:							
	A	2	**B**	$\frac{1}{2}$	**C**	$-\frac{1}{2}$	**D**	-2
13.	Degree of the polynomial $y^3(3y^2-2y+5y^4)$ is:							
	A	5	**B**	2	**C**	7	**D**	8
14.	If $a+b+c=0$, then $a^3+b^3+c^3$ is equal to:							
	A	2abc	**B**	0	**C**	1	**D**	3abc

15.	The product of $(x-9)(x+5)$ is:							
	A	$x^2-4x-45$	**B**	$x^2-4x+45$	**C**	$x^2+4x-45$	**D**	$x^2-14x-45$
16.	Which of the following is a cubic polynomial?							
	A	x^3+x-1	**B**	$3x^2-7x$	**C**	$x+y+3$	**D**	x^4+x^3+7
17.	Factors of $y^2-2y-195$:							
	A	$(y-12)(y-15)$	**B**	$(y-13)(y-15)$	**C**	$(y+13)(y-15)$	**D**	$(y-13)(y+15)$
18.	If $(x-2)$ is a factor of x^3-3x+a ,then the value of a is:							
	A	-2	**B**	2	**C**	-14	**D**	14
19.	If $x=2y+6$, then the value of $x^3-8y^3-36xy-216$ is:							
	A	1	**B**	0	**C**	36	**D**	6
20.	Factors of $\frac{1}{64}x^3-8y^3+\frac{3}{16}x^2y-\frac{3}{2}xy^2$:							
	A	$\left(\frac{x}{4}-\frac{y}{2}\right)$ $\left(\frac{x}{4}-\frac{y}{2}\right)$ $\left(\frac{x}{4}-\frac{y}{2}\right)$	**B**	$\left(\frac{x}{4}+\frac{y}{2}\right)$ $\left(\frac{x}{4}+\frac{y}{2}\right)$ $\left(\frac{x}{4}+\frac{y}{2}\right)$	**C**	$\left(\frac{x}{4}-2y\right)$ $\left(\frac{x}{4}-2y\right)$ $\left(\frac{x}{4}-2y\right)$	**D**	$\left(\frac{x}{4}-2y\right)$ $\left(\frac{x}{4}+2y\right)$ $\left(\frac{x}{4}-2y\right)$

ASSERTION AND REASONING

DIRECTION: In the question number 11 and 12, a statement of assertion (A) is followed by statement of Reason (R). Choose the correct option:

(a) Both assertion (A) and reason (R) are true and reason (R) is the correct explanation of assertion (A).

(b) Both assertion (A) and reason (R) are true and reason (R) is not the correct explanation of assertion (A).

(c) Assertion (A) is true but reason (R) is false.

(d) Assertion (A) is false but reason (R) is true.

21.	**Assertion**: If sum of all the coefficients, including the constant term, of a polynomial is zero, then $(x-1)$ is one of its factors. **Reason:** If a polynomial $f(x)$ is divisible by $(x-\alpha)$, then $f(\alpha)=0$
22.	**Assertion:** If $f(x+2)=2x^2+7x+5$, then the remainder when $f(x)$ is divided by $(x-1)$is 0. **Reason: If a polynomial** $f(x)$ is divided by $(ax+b)$,then the remainder is $f\left(\frac{b}{a}\right)$.

Answers

Answers	**1**	**C**	**2**	**B**	**3**	**D**	**4**	**C**
	5	**D**	**6**	**B**	**7**	**C**	**8**	**A**
	9	**C**	**10**	**B**	**11**	**D**	**12**	**B**
	13	**C**	**14**	**D**	**15**	**A**	**16**	**A**
	17	**C**	**18**	**A**	**19**	**B**	**20**	**A**
	21	**A**	**22**	**c**				

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