INDIAN SCHOOL AL WADI AL KABIR

Class VII, Mathematics (2024-25)

Worksheet DTQ – Algebraic Expressions

SHORT ANSWER TYPE QUESTIONS- 7 QUESTIONS. (2 Marks each)	
Q1.	Write an algebraic expression for the given statements: i) One fifth of x added to the difference of x and y. ii) Sum of p and q subtracted from their product. iii) Four more than twice of m. iv) Fifteen less than the sum of a and b.
Q2.	Show the terms and factors in the given expressions using a tree diagram: $3x^2 - 2x+7$
Q3.	Find the sum of given algebraic expressions: $2pq-3c$, $14c+7$, and $pq-5c$
Q4.	Simplify $3a - 4(a-7)$ and find its value when $a = -2$
Q5.	Venkat has $5xy - 8x + y$ marbles. if $x= -1$ and $y=-2$, Find the number of marbles with Venkat.
Q6.	If $x=-2$ and $y=-1$, find the value of $x^2 + y^2 - 2xy$
Q7.	Simplify $(3x^2 - 3x) - (3x-3x^2)$
SHORT ANSWER TYPE- 5 QUESTIONS. (3 Marks each)	
Q8.	Identify the monomial, binomial and trinomial among the following: a)$a^2+b^2 + 2ab$ b)$24xyz$ c)$-yz - xy$
Q9.	If $x^2 - xy + y=15$ and $x=2$, find the value of y.
Q10	Subtract $-4k^2+14 + 3k$ from $-3k^2 - 14k - 8$
Q11.	Find the sum of $2p^2 - pq + 8p + 7$ and $-3p^2 + 4pq - 3p + 5$
Q12.	Simplify the given expression and find the value if $a =1$, $b=2$ and $c = -1$ $3a^2 + b^2 + c^2 - 4ab - 2a^2 + 3ab + bc + 3ac - 2bc - 4ac$
LONG ANSWER TYPE- 3 QUESTIONS. (4 Marks each)	
Q13.	From the sum of $4a + b + c$ and $9a-c$, subtract the sum of $18a - b - c$ and $-14a - 2b - c$
Q14.	Evaluate $\frac{y}{2} + x + 4 + y + z$ for $x=7$, $y=-2$ and $z=4$
Q15.	Find the value of b if the value of i) $a^2 - 3b+6ab$ is -11 when $a =-2$ ii) $y^3 + 2y^2+3y - 6b$ is 18 when $y =0$

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ANSWERS					
Q1.	i)$\frac{x}{5}$ +(x$-y$) ii)pq$-$(p+q) iii)2m+4 iv)(a+b) $-$15	**Q2.**	Tree diagram	**Q3.**	3pq + 6c +7
Q4.	30	**Q5.**	16	**Q6.**	1
Q7.	$6x^2 - 6x$	**Q8.**	a) Trinomial b) Monomial c)binomial	**Q9.**	-11
Q10.	$k^2 - 17k\ - 22$	**Q11.**	$-p^2$+3pq+5p+12	**Q12.**	a^2+b^2+c^2 $-$ab $-$bc$-ca$ = 7
Q13.	17 a +4b+2c	**Q14.**	12	**Q15.**	a)1 b) -3