

CLASS 7

MATHS

EXTRA QUESTIONS

Extra Questions for Class 7 Maths Chapter 4: Expressions Using Letter-Numbers – HOTS

Fresh HOTS (Higher Order Thinking Skills) practice questions for Class 7 Maths Chapter 4 "Expressions Using Letter-Numbers", designed to test deeper understanding beyond the textbook exercises.

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Q1.

Simplify: $5x - 3(2x - 4) + 7$

Answer: $5x - 6x + 12 + 7 = -x + 19$

Q2.

If $a = 3$ and $b = -2$, evaluate $4a - 3b + 2ab$.

Answer: $4(3) - 3(-2) + 2(3)(-2) = 12 + 6 - 12 = 6$

Q3. Assertion-Reason

Assertion (A): The expression $3x + 2y$ has 2 terms.

Reason (R): Terms in an algebraic expression are separated by + or – signs.

Answer: Both A and R are true, and R correctly explains A.

Q4.

A shopkeeper sells notebooks at Rs. 25 each and pens at Rs. 10 each. Write an expression for the total cost of n notebooks and p pens, then find the cost for 6 notebooks and 4 pens.

Answer: Expression: $25n + 10p$. For $n=6$, $p=4$: $25(6)+10(4) = 150+40 = \text{Rs. 190}$

Q5. Spot the error

A student simplified $2(x+3) - (x-1)$ as “ $2x+3-x-1 = x+2$ ”. Find and correct the error.

Answer: The student forgot to distribute the 2 to both terms and applied the wrong sign to $-(x-1)$. Correct working: $2x+6-x+1 = x + 7$

Q6.

The perimeter of a regular octagon (8 equal sides) with side length s is given by which expression? Find the perimeter when $s = 6$ cm.

Answer: Perimeter = $8s$. For $s=6$: $8 \times 6 = 48$ cm

Q7.

Subtract $(5x - 3y + 8)$ from $(9x + 2y - 4)$.

Answer: $(9x+2y-4) - (5x-3y+8) = 9x-5x+2y+3y-4-8 = 4x + 5y - 12$

Q8.

A matchstick pattern adds 5 sticks for every new triangle after the first, which uses 3 sticks. Write a general expression for n triangles, and find the number of matchsticks for 12 triangles.

Answer: Expression: $3 + 5(n-1) = 5n - 2$. For $n=12$: $5(12)-2 = 60-2 = 58$ matchsticks

Q9.

If the sum of two expressions is $7x - 3y$ and one of them is $4x + 2y$, find the other expression.

Answer: Other expression = $(7x-3y) - (4x+2y) = 3x - 5y$

Q10.

Sequence puzzle: the n th term of a pattern is $3n - 2$. What is the 25th term, and which term equals 100?

Answer: 25th term = $3(25)-2 = 75-2 = 73$. For $3n-2=100$: $3n=102$, $n=34$ th term

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Revision Notes: [Class 7 Maths Chapter 4 Revision Notes](#)