

CLASS 7

MATHS

EXTRA QUESTIONS

Extra Questions for Class 7 Maths Chapter 2: Arithmetic Expressions – HOTS

Fresh HOTS-level extra questions for Class 7 Maths Chapter 2 (Arithmetic Expressions), with numbers not found in the NCERT book. Full worked solutions included.

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Q1. Evaluate: $65 - 8 \times 3 + 20 \div 4$

Solution: $65 - 24 + 5 = 41 + 5 = 46$.

Q2 (Bracket insertion). Insert brackets to make $100 - 40 - 20$ equal to 80.

Solution: $100 - (40 - 20) = 100 - 20 = 80$. 

Q3 (Assertion–Reason). Assertion (A): $25 \times (16 - 6)$ equals $25 \times 16 - 25 \times 6$. Reason (R): Multiplication distributes over subtraction.

Solution: R is **true**. Checking A: $25 \times (16 - 6) = 25 \times 10 = 250$; $25 \times 16 - 25 \times 6 = 400 - 150 = 250$ — equal, so A is **true**. **Both true, R explains A.**

Q4 (Word problem). A shopkeeper buys 8 boxes of pens at ₹150 each and sells them for a total profit of ₹320. What was the total selling price?

Solution: Cost = $8 \times 150 = ₹1,200$. Selling price = cost + profit = $1200 + 320 = ₹1,520$.

Q5 (Compare without full evaluation). Compare $48 \times (25 - 9)$ and $48 \times 25 - 48 \times 10$ using reasoning.

Solution: $48 \times (25 - 9) = 48 \times 16$. $48 \times 25 - 48 \times 10 = 48 \times (25 - 10) = 48 \times 15$. Since $16 > 15$, **$48 \times (25 - 9)$ is greater.**

Q6 (Spot the error). A student simplifies $60 - (15 - 5)$ as $60 - 15 - 5 = 40$. Is this correct?

Solution: Incorrect. When removing a bracket preceded by a minus sign, both signs inside must flip: $60 - (15 - 5) = 60 - 15 + 5 = 50$, not 40. The student forgot to flip the sign of the second term inside the bracket.

Q7 (Distributive law shortcut). Use a shortcut to compute 199×25 .

Solution: $199 \times 25 = (200 - 1) \times 25 = 5000 - 25 = 4,975$.

Q8 (Terms identification). Identify the terms in the expression $6 \times 12 - 3 \times 4 + 9$.

Solution: The terms are **6×12 , 3×4 (with a minus sign), and 9** — three terms in total, separated by + and – signs. Value = $72 - 12 + 9 = 69$.

Q9 (Snail-style problem, HOTS). A frog jumps 5 cm forward every hop but slides back 3 cm before its next hop. A lily pad is 25 cm away. How many hops does it take to reach the lily pad?

Solution: Net progress per hop-slide cycle = $5 - 3 = 2$ cm. After 10 full cycles: 20 cm. On the **11th hop**, the frog jumps 5 more cm, reaching $20 + 5 = 25$ cm — exactly the lily pad — before any further slide. So it takes **11 hops**.

Q10 (Multi-step). Evaluate $3 \times (14 - 9) + 2 \times (20 - 15) - (8 - 3)$

Solution: $3 \times 5 + 2 \times 5 - 5 = 15 + 10 - 5 = 20$.