

CLASS 7

MATHS

EXTRA QUESTIONS

Extra Questions for Class 7 Maths Chapter 6: Number Play – HOTS

Fresh HOTS practice questions for Class 7 Maths Chapter 6 "Number Play", testing parity, magic squares, and the Virahanka sequence with new numbers.

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Q1.

Is the sum of 7 odd numbers always odd or even? Verify with an example.

Answer: Always **odd** (an odd count of odd numbers always sums to odd). Example: $1+3+5+7+9+11+13 = 49$ (odd).

Q2.

A 3×3 magic square has centre value 12. What is its magic sum, and what would the magic sum become if every number were tripled?

Answer: Magic sum = $3 \times 12 = 36$. After tripling every number, the new magic sum = $36 \times 3 = 108$.

Q3. Assertion-Reason

Assertion (A): The product of two odd numbers is always odd.

Reason (R): An odd number can be written as $2k+1$ for some integer k , and the product of two such numbers is also of the form $2m+1$.

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

Q4.

What are the next two terms after 4181 in the sequence 1, 2, 3, 5, 8, 13, ..., 2584, 4181?

Answer: $2584+4181 = 6765$; $4181+6765 = 10946$

Q5. Spot the error

A student claims: “Since $6j-4$ gives 2, 8, 14, 20 for $j=1,2,3,4$, it must generate all even numbers.” Explain the error.

Answer: This is incorrect. The expression $6j-4$ only produces numbers that increase in steps of 6 (2, 8, 14, 20, ...), so it skips many even numbers like 4, 6, 10, 12, etc. It generates only some even numbers, not all of them.

Q6.

In how many ways can 5 be written as an ordered sum of 1s and 2s?

Answer: This equals the Virahanka term for $n=5$, which is **8 ways** (matching the sequence 1,2,3,5,8,...).

Q7.

A bulb starts OFF. It is toggled 124 times. Is it ON or OFF at the end?

Answer: Since 124 is even, an even number of toggles returns the bulb to its starting state, so it will be **OFF**.

Q8.

Solve the cryptarithm: $AA + B = CDD$, where each letter is a single digit and AA means a 2-digit number with both digits equal to A .

Answer: Try $A=9$: $AA=99$. $99+B=CDD$ (a 3-digit number starting with C). For $B=1$: $99+1=100$, so $C=1$, $D=0$, $D=0$. This gives **$A=9$, $B=1$, $C=1$, $D=0$** ($99+1=100$ checks out).

Q9.

Is 10×15 odd or even? Explain using the parity rule for products.

Answer: Even. Since at least one of the two numbers (10) is even, the product must be even, regardless of the other factor. ($10 \times 15 = 150$, which is even.)

Q10.

Create a magic square using the numbers 4 to 12 (9 consecutive numbers). What is its magic sum?

Answer: Add 3 to every cell of the classic 1–9 magic square (since $4 = 1+3$). New magic sum = $15 + 3(3) = 24$.

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Revision Notes: [Class 7 Maths Chapter 6 Revision Notes](#)