

CLASS 8 · HOTS · OLYMPIAD PREPARATION · DPP SHEET

Chapter 3: HOTS: Number Play (Class 8)

Daily practice problems: 8 questions with an answer key

Try every question on your own first. The answer key is on the last page.

1. Find the sum of 11, 13 and 15 and show that it is a multiple of 3.
2. Find the digit $*$ so that $52*4$ is divisible by 9.
3. Find the digit a so that $5a49$ is divisible by 11.
4. Find the remainder when 2345 is divided by 9.
5. Find the digital root of 5678.
6. Find the smallest four-digit number divisible by 11.
7. Is $73*8$ divisible by 3 when $* = 1$?
8. Show that $83 - 38$ is a multiple of 9.

Answer Key

1. $39 = 3 \times 13$ (three consecutive odd numbers $n - 2$, n and $n + 2$ add up to $3n$).
2. $*$ = 7 (the digit sum $11 + *$ must be 18).
3. $a = 0$ (the number is $5049 = 11 \times 459$).
4. 5 (the digit sum is 14, and $1 + 4 = 5$).
5. 8 ($5 + 6 + 7 + 8 = 26$ and $2 + 6 = 8$).
6. 1001.
7. No. The digit sum is $7 + 3 + 1 + 8 = 19$, which is not a multiple of 3.
8. $83 - 38 = 45 = 9 \times 5$.

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