

- The sum of the two 5-digit numbers $AMC10$ and $AMC12$ is 123422. What is $A + M + C$?

(A) 10 (B) 11 (C) 12 (D) 13 (E) 14

2003 AMC 12 A, Problem #5;
2003 AMC 10 A, Problem #11 —
“Look at the last two digits”

- **Solution (E)** Since the last two digits of $AMC10$ and $AMC12$ sum to 22, we have

$$AMC + AMC = 2(AMC) = 1234.$$

Hence $AMC = 617$, so $A = 6$, $M = 1$, $C = 7$, and $A + M + C = 6 + 1 + 7 = 14$.

Difficulty: Medium-easy

NCTM Standard: Number and Operations Standards for Grade 9–12: Develop fluency in operations with real numbers, vectors, and matrices. Use number-theory arguments to justify relationships involving whole numbers.

Mathworld.com Classification:

Recreational Mathematics > Cryptograms > Cryptarithmic