- Cindy was asked by her teacher to subtract 3 from a certain number and then divide the result by 9. Instead, she subtracted 9 and then divided the result by 3, giving an answer of 43. What would her answer have been had she worked the problem correctly?

(A) 15   **(B)** 34   **(C)** 43   **(D)** 51   **(E)** 138

2002 AMC 10 A, Number #6;
2002 AMC 12 A, Number #2—
"Write an equation"

- **Solution (A)** Let x be the number she was given. Her calculations produce

$$\frac{x - 9}{3} = 43,$$

so

$$x - 9 = 129 \quad \text{and} \quad x = 138.$$

The correct answer is

$$\frac{138 - 3}{9} = \frac{135}{9} = 15.$$

Difficulty: Easy

NCTM Standard: Algebra Standard for Grades 9–12: Understand and perform transformations such as arithmetically combining, composing, and inverting commonly used functions.

Mathworld.com Classification:
Number Theory > Arithmetic > General Arithmetic > Arithmetic