

Curriculum Inspirations

Inspiring students with rich content from the
MAA American Mathematics Competitions



Curriculum Burst 39: Skipped Counts

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Seven students count from 1 to 1000 as follows:

- Alice says all of the numbers, except she skips the middle number in each consecutive group of three numbers. That is, Alice says 1, 3, 4, 6, 7, 9, ..., 997, 999, 1000.
- Barbara says all of the numbers that Alice doesn't say, except she also skips the middle number in each consecutive group of three numbers.
- Candice says all of the numbers that neither Alice nor Barbara says, except she also skips the middle number in each consecutive group of three numbers.
- Debbie, Eliza, and Fatima say all of the numbers that none of the students with first names beginning before theirs in the alphabet say, except each also skips the middle number in each of her consecutive groups of three numbers.
- Finally, George says the only number that no one else says.

What number does George say?

THE QUICK STATS:

MAA AMC GRADE LEVEL

This question is appropriate for the 10th grade level.

MATHEMATICAL TOPIC

Integer exponents

COMMON CORE STATE STANDARDS

8.EE.A: Work with integer and radical exponents.

A-SSE.2 Use the structure of an expression to identify ways to rewrite it.

MATHEMATICAL PRACTICE STANDARDS

MP1 Make sense of problems and persevere in solving them.

MP2 Reason abstractly and quantitatively.

MP7 Look for and make use of structure.

MP8 Look for and express regularity in repeated reasoning.

PROBLEM SOLVING STRATEGY

ESSAY 4: [DRAW A PICTURE](#)

SOURCE

This is question # 23 from the 2011 MAA AMC 10A Competition.



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