

# Be in front of the 8-ball



Amy is playing with the pool balls numbered 1 to 15 on a pool table.

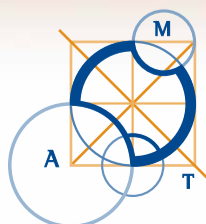
- What is the total of all the ball numbers?
- Amy sinks one ball and calculates the sum of the numbers on the remaining balls. Could the sum be a square number? Explain.
- Amy sinks all 15 balls one at a time. Each time she calculates the sum of the numbers on the remaining balls. Each sum is either a prime or a square number. Give a possible order in which Amy could sink the balls.
- In another game Amy sinks some of the balls one at a time. Each time she notices that the sum of the numbers on the remaining balls is prime. What is the smallest prime she could reach? Explain.

## 2011 Challenge & Enrichment

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