

1145-M5-2505 **Maya Schwartz*** (ms1795@bard.edu), 30 Campus Rd, Annandale-on-Hudson, NY 12504. *The Combinatorics of SET (the card game)*.

SET is a card game with 81 cards in which each card varies in 4 different characteristics: color (red, green, or purple), quantity (one, two, or three), shape (diamond, oval, or squiggle), and shading (solid, striped, or empty). Each card is unique, and the entire deck has every combination of these four characteristics. My peer Emma Bernstein and I developed a lesson plan on the mathematics of SET, which was aimed at a group of middle school girls, who are members of the Girls Math Club at Bard. As a group, we all came to the conclusion that there are 1,080 unique sets that can be made with the entire deck, given two cards, there is only one card that will complete the SET. (Received September 25, 2018)