1023-H1-73       **Arthur T. Benjamin\*** (`benjamin@hmc.edu`), Math Department, Harvey Mudd College, 1250 N. Dartmouth Avenue, Claremont, CA 91711. *An Amazing Mathematical Card Trick.*

Your volunteer is given 20 cards (tens through aces) and is asked to shuffle them to her hearts content. The cards are further mixed together with some cards face up and some cards face down. The cards are dealt and seen to be in a jumbled mess. Finally, the spectator "folds" the cards, making free choices every step of the way. When the cards are spread out again, the only face up cards form a royal flush. The explanation of this trick is just as beautiful as the trick itself, and is based on a very subtle parity principle that can be appreciated by students taking any discrete mathematics course. No sleight of hand (or hand-waving) required! (Received July 26, 2006)