Problem of the Week
Problem E
Pick a Card - Any Card

Luke has a unique deck of cards. Each card in the deck has a positive three digit number on it. There is exactly one card in the deck for every three digit positive integer.

The deck is shuffled. Luke selects a card at random from the deck and calculates the sum of the digits. If the sum of the digits is 15, the card is a winner.

Determine the probability that Luke selects a winning card.