

Problem 3

Undergraduate Problem Solving Contest
due November 28, 2016

November 14, 2016

1 Wrong game

A group of friends gather to play some Dungeons & Dragons, but by chance they all brought only standard 6 sided dice! However, the game master proposes a solution: to simulate a 20 sided dice, roll *twenty* 6 sided dice, and take the sum of the pips modulo 20 (with $0 = 20$) as the result. A fair 20 sided die has a $\frac{1}{20}$ chance of giving each value in $[1, \dots, 20]$. Does her method achieve this?