

ZMATH 2016b.00796

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Weighted dice: a physical application for probability studies.

Ohio J. Sch. Math. 72, 18-22 (2015).

Summary: Conventional dice were altered by the insertion of weights for the purpose of creating dice that do not behave according to the conventional rules of probability. The performance of these dice was then characterized by students in the classroom through several hundred experimental trials. Each trial involved one of the following: a one-die roll, a two-dice roll sum, or a three-dice roll sum. Results from these student trials were combined into one large database. These results with weighted dice were then compared against theoretical calculations with conventional dice for one-die rolls, two-dice roll sums, and three-dice roll sums.

Classification: K50

Keywords: modified dice; single-die rolls; two-dice rolls; three-dice rolls; dice sums; probability; experiments; student activities; expected values; sample spaces