

5.2 Probability Rules

Michael Brodskiy

Instructor: Mr. Thompson

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1 Question of 18 Attempts 95% Correct Question 1 of 18 My Attempt

2 Question of 18 Attempts 100% Correct

3 Question of 18 Attempts 100% Correct

4 Question of 18 Attempts 100% Correct

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Solved

A four-sided die is a pyramid whose four faces are labeled with the numbers 1, 2, 3, and 4 (see image). Imagine rolling two fair, four-sided dice and recording the number that is showing at the base of each pyramid. For instance, you would record a 4 if the die landed as shown in the figure.



Give a probability model for this chance process.

- ☐ Sample space = $\{(1, 1), (1, 2), (1, 3), (1, 4), (2, 1), (2, 2), (2, 3), (2, 4), (3, 1), (3, 2), (3, 3), (3, 4), (4, 1), (4, 2), (4, 3), (4, 4)\}$. Each of the outcomes has a probability of $1/8$.
- ☒ Sample space = $\{(1, 1), (1, 2), (1, 3), (1, 4), (2, 1), (2, 2), (2, 3), (2, 4), (3, 1), (3, 2), (3, 3), (3, 4), (4, 1), (4, 2), (4, 3), (4, 4)\}$. Each of the outcomes has a probability of $1/16$.
- ☐ Sample space = $\{2, 3, 4, 5, 6, 7, 8\}$, $P(2) = 1/16$, $P(3) = 1/8$, $P(4) = 3/16$, $P(5) = 1/4$, $P(6) = 3/16$, $P(7) = 1/8$, $P(8) = 1/16$.
- ☐ Sample space = $\{(1, 2), (1, 3), (1, 4), (2, 1), (2, 3), (2, 4), (3, 1), (3, 2), (3, 4), (4, 1), (4, 2), (4, 3)\}$. Each