Exercise 3.2.6

Introduction to Discrete Mathematics
MATH 2001

SEBASTIAN CASALAINA

ABSTRACT. This is Exercise 3.2.6 from Hammack [Ham13, §3.2]:

Exercise 3.2.6. You toss a coin, then roll a die, and then draw a card from a 52-card deck. How many different outcomes are there? How many outcomes are there in which the die lands on 3? How many outcomes are there in which the die lands on an odd number? How many outcomes are there in which the die lands on an odd number and the card is a King?

Solution. There are

$$2 \times 6 \times 52$$

possible outcomes when you toss a coin (2 options), then roll a die (6 options), and then draw a card from a 52-card deck (52 options).

There are

$$2 \times 1 \times 52$$

possible outcomes when the die lands on a 3 (1 option).

There are

$$2 \times 3 \times 52$$

possible outcomes when the die lands on an odd number (3 options).

There are

$$2 \times 3 \times 4$$

possible outcomes when the die lands on an odd number (3 options) and the card is a King (4 options).

□

REFERENCES

[Ham13] Richard Hammack, *Book of proof*, Creative Commons, 2013.

UNIVERSITY OF COLORADO, DEPARTMENT OF MATHEMATICS, CAMPUS BOX 395, BOULDER, CO 80309

Email address: casa@math.colorado.edu