**AP Statistics Guided Notes: Chapter 5.2**

Terminology

* Sample space “S”:
* Probability model:
* Event:
* Complement:
* Mutually exclusive (disjoint):

Notation & Probability Rules

The sample space S of the possible outcomes of a coin toss is written as: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

The probability of event A happening is written as: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Basic Probability Rules**

* For any event A,
* If S is the sample space in a probability model,
* In the case of equally likely outcomes,
* **Complement rule:**
* **Addition rule for mutually exclusive events:** If A and B are mutually exclusive,

You try!

1. Imagine flipping a fair coin three times. Give a probability model for this chance process.

Possible outcomes for three coin flips:

S = { }

Since each coin is fair, each one of these \_\_\_\_\_ outcomes will be equally likely and have a probability of \_\_\_\_\_ / \_\_\_\_\_\_.

2. Randomly select a student who took the 2010 AP Statistics exam and record the student’s score. Here is the probability model:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Score: | 1 | 2 | 3 | 4 | 5 |
| Probability | 0.233 | 0.183 | 0.235 | 0.224 | 0.125 |

(a) Show this is a legitimate probability model (hint: use the basic rules for probability).

(b) Find the probability that the chosen student scored 3 or better (hint: use the basic rules for probability).