BSM Course on Markov Chains and Dynamical Systems, Fall 2025

Quiz #1, September 19; **NAME:**

1. Two fair dice are rolled. Consider the following events:

$$A = \{\text{At least one of the two dice turns up 2.}\} \qquad B = \{\text{The sum of the two values rolled is 5.}\}$$

Compute (i) $\mathbb{P}(A) =$

(ii) $\mathbb{P}(A|B) =$

(iii) Are A and B independent?

2. We keep rolling a fair die until it turns up 6 for the first time. Let X denote the number of flips. Compute:

$\mathbb{P}(X$ takes an odd value$) =$