

Math 213 Discussion Worksheet – Week 13

Let A represent the number that turns up in a (fair) dice roll, let C represent the number that turns up in a separate (fair) dice roll, and let B represent a card randomly picked out of a deck:

1. A dice is rolled. What is the probability of rolling a 3 i.e. calculate $P(A = 3)$?
2. A dice is rolled. What is the probability of rolling a 2, 3, or 5, i.e. calculate $P(A = 2, 3, 5)$?
3. What is the probability of choosing a card of the suit Diamonds (in a 52-card deck)?
4. A dice is rolled and a card is randomly picked from a deck of cards. What is the probability of rolling a 4 and picking the Ace of Spades, i.e. calculate $P(A = 4)P(B = \text{Ace of spades})$.
5. Two dice are rolled together. What is the probability of getting a 1 and a 3?
6. Two dice are rolled separately. What is the probability of getting a 1 and a 3, regardless of order?
7. Calculate the probability of rolling two dices that add up to 7.
8. Let C be the number rolled on the first dice and A be the number rolled on the second dice. Show that the probability of C is equal to A is $1/6$.
9. Let C and A be as in exercise 8. What is the probability that C is greater than A ?