

Drill Quiz Number 1 for Chapter 12 Section 3

1. Suppose E and F are events in a sample space. What does the symbol $P(E|F)$ stand for? Write both a verbal description and a formula.

2. Consider the experiment in which you roll a fair die. The next questions are about the following events:
 E = the event that the number you roll is even.
 F = the event that the number you roll is greater than 2 (Note: “greater than 2” means 3 or larger).
 - a. What is the probability that you roll an even number, given that the number you roll is greater than 2? Write the symbol as well as the numerical answer.

 - b. What is the probability that you roll a number greater than 2, given that the number you roll is even? Write the symbol as well as the numerical answer.

3. Consider the experiment in which you choose two cards from a standard deck of playing cards. The next questions are about the following events:
 A_1 = the event that the first card you choose is a 2, 3 or 4.
 A_2 = the event that the second card you choose is a 2, 3 or 4.
Use the back of this quiz to draw a tree diagram for this experiment. Label the nodes with the appropriate events and the branches (the lines) with the appropriate probabilities.
 - a. What is $P(A_1)$?

 - b. What is $P(A_2|A_1)$?

 - c. What is the probability that both cards are a 2, 3 or 4?

 - d. What is the probability that the first card is a 2, 3 or 4 but the second card is not a 2, 3 or 4?