

# Conditional Probability Worksheet 8

1. If all outcomes in a sample have an equal probability of occurring, then the probability model for that sample is uniform. Is this statement true or false?
2. If two outcomes in a sample have a different probability of occurring, then the multiplication rule for events A and B,  $P(B)P(A|B) = P(A \text{ and } B)$ , can be used. Is this statement true or false?
3. An event is a group of possible outcomes. Is this statement true or false?
4.  $P(A) = 0.75$  and  $P(B|A) = 0.50$ . What is  $P(A \text{ and } B)$ ?
5.  $P(C) = 0.60$  and  $P(B|C) = 0.35$ . What is  $P(B \text{ and } C)$ ?
6.  $P(A \text{ and } B) = 0.35$  and  $P(A|B) = 0.50$ . What is  $P(B)$ ?
7.  $P(A|B) = 0.40$ ,  $P(A) = 0.60$  and  $P(B|A) = 0.20$ . What is  $P(B)$ ?
8.  $P(B) = 0.50$ ,  $P(A) = 0.25$ , and  $P(B|A) = 0.50$ . What is  $P(A|B)$ ?
9.  $P(B) = 0.20$ ,  $P(A|B) = 0.30$ , and  $P(B|A) = 0.10$ . What is  $P(B)$ ?
10.  $P(A) = 1.00$ ,  $P(B-A) = 0.25$ , and  $P(B) = 0.30$ . What is  $P(A-B)$ ?

Use the multiplication rules for uniform probabilities to answer questions 4-10.