

Independent & Dependent Probability worksheet**Complete the statement.**

- 1) If A and B are independent events, then $P(A \text{ then } B) =$ _____.
- 2) If A and B are dependent events, then $P(A \text{ then } B) =$ _____.
- 3) An example of two independent random events is _____
_____.
- 4) An example of two dependent random events is _____
_____.

Events A and B are independent. Find the missing probability.

5) $P(A) = \frac{2}{5}, P(B) = \frac{1}{6}$

6) $P(A) = \frac{3}{8}, P(B) = \frac{4}{9}$

$P(A \text{ then } B) =$ _____

$P(A \text{ then } B) =$ _____

Events A and B are dependent. Find the missing probability.

7) $P(A) = \frac{6}{11}, P(B \text{ given } A) = \frac{1}{2}$

8) $P(A) = \frac{8}{15}, P(B \text{ given } A) = \frac{5}{14}$

$P(A \text{ then } B) =$ _____

$P(A \text{ then } B) =$ _____

In problems 9 & 10, first tell whether the events are *independent* or *dependent*. Then, find $P(A \text{ then } B)$.

- 9) You randomly choose a marble from a bag of 8 green marbles and 5 blue marbles. You randomly draw another marble without replacing the first marble.
Event A: You draw a blue marble. **Event B:** You draw a blue marble.

- 10) A weather forecaster says that there is a 25% chance of rain today and a 55% chance of rain tomorrow.
Event A: It rains today. **Event B:** It rains tomorrow.

Solve.

- 11) Each week you have a surprise quiz in your history and science classes. Find the probability that both quizzes will be given on the same day next week.
- 12) Twelve light bulbs are tested to see if they last as long as the manufacturer claims they do. Three light bulbs fail the test. Two light bulbs are selected at random without replacement. Find the probability that both light bulbs (a) failed the test and (b) passed the test.