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${ }_{115}^{\text {LIsson }}$ Practice B
11.5

Tell whether the events are independent or dependent.

1. A shelf contains 50 travel books, one for each state. You randomly choose a book and put it back. Then you randomly choose another book.
Event $A$ : You choose the Alaska book first.
Event $B$ : You choose the Hawaii book second.
2. You have bottles of water and bottles of juice in your refrigerator. You randomly choose one, drink it, then randomly choose another.
Event $A$ : You choose a bottle of water first.
Event $B$ : You choose a bottle of juice second.

## Events $\boldsymbol{A}$ and $\boldsymbol{B}$ are independent. Find the missing probability.

3. $P(A)=0.6$
$P(B)=0.5$
$P(A$ and $B)=$ ?
4. $P(A)=0.35$
$P(B)=$ ?
$P(A$ and $B)=0.28$
5. $\quad \begin{aligned} & P(A) \\ P(B) & =\frac{?}{0.8}\end{aligned}$
$P(A$ and $B)=0.24$

## Events $\boldsymbol{A}$ and $\boldsymbol{B}$ are dependent. Find the missing probability.

6. $P(A)=0.2$
$P(B \mid A)=0.3$
$P(A$ and $B)=$ ?
7. $P(A)=0.7$
$P(B \mid A)=$ ?
$P(A$ and $B)=0.56$
8. $\quad P(A)=$ ?
$P(B \mid A)=0.76$
$P(A$ and $B)=0.19$

Find the probability of drawing the given cards from a standard deck of 52 cards (a) with replacement and (b) without replacement.
9. A red card, then a black card
11. A face card, then a two
10. A ten, then the ace of hearts
12. A club, then a four

HONORS CLASSES The table shows the number of students taking honors classes.

|  | 1 Honors class | 2 Honors classes | 3 Honors classes |
| :--- | :---: | :---: | :---: |
| Freshmen | 66 | 52 | 31 |
| Sophomores | 58 | 68 | 43 |
| Juniors | 51 | 72 | 60 |
| Seniors | 48 | 59 | 64 |

13. Find the probability that a student is a junior.
14. Find the probability that a sophomore who is taking honor classes is taking two honors classes.
15. Find the probability that a student taking two honors classes is a freshman.
16. TIC-TAC-TOE Woodrow wins a tic-tac-toe game $65 \%$ of the time when he chooses the first square and $32 \%$ of the time when his opponent chooses the first square. The player who plays first is chosen by a coin toss. What is the probability that Woodrow wins a given game?
