

# Practice 85

FOR USE WITH SECTION 13.3

The following table lists the kinds of volunteer work undertaken by students at a high school on Community Action Day.

	Blue Team	Red Team	Green Team	Yellow Team	Total
<b>Litter Pickup</b>	40	50	25	30	145
<b>Urban Gardening</b>	35	45	50	35	165
<b>Day Care</b>	55	25	35	45	160
<b>Homeless Shelter</b>	30	35	30	40	135
<b>Total</b>	160	155	140	150	605

Suppose a student participating in Community Action Day is chosen at random. Find each probability.

- $P(\text{green})$
- $P(\text{homeless shelter})$
- $P(\text{day care} \mid \text{blue})$
- $P(\text{urban gardening} \mid \text{green})$
- $P(\text{litter pickup} \mid \text{yellow})$
- $P(\text{red} \mid \text{homeless shelter})$
- $P(\text{red or green} \mid \text{urban gardening})$
- $P(\text{yellow} \mid \text{day care or litter pickup})$
- On your first stroke on one hole of a miniature golf course, you can hit the ball (1) through the tunnel, (2) around the tunnel, or (3) into the rough. The probabilities associated with these outcomes are (1) 30%, (2) 60%, and (3) 10%. The probabilities of then hitting the ball into the cup on your second stroke are (1) 50%, (2) 20%, and (3) 5%. Find the probability of hitting the ball into the cup in two strokes.

Two cards are drawn at random from a standard deck of 52 playing cards. The first card is *not* returned to the deck before the second card is drawn. Find the probability of each event.

- The first card is a heart and the second card is another red card.
- The second card is a face card, given that the first card was not a face card.
- Both cards are 10s.
- The second card is a spade, given that the first card was a diamond.
- The first card is a face card and the second card is a club. (*Hint:* Consider two possibilities: The first card is a club, or the first card is not a club.)
- Writing** In the experiment above, is it more likely that the two cards picked will be of the same color or of different colors? Explain your answer.