

## Guided Skills Practice



### APPLICATION

4. The band at Washington High School has 25 members, and the pep club has 18 members. Five students belong to both groups. Find the probability that a student randomly selected from these two groups is a member of the band if you know that he or she is in the pep club. **(EXAMPLE 1)**

**A bag contains 12 blue disks and 5 green disks. For each case below, find the probability of selecting a green disk on the first draw and a green disk on the second draw. (EXAMPLE 2)**

5. The first disk is replaced.                      6. The first disk is *not* replaced.
7. Refer to the table on page 666 about the student body and the respective probabilities for each class. Use the method shown in Example 3 to find the probability that a boy is selected. **(EXAMPLE 3)**
8. **HEALTH** Refer to Example 4. Suppose that 5 out of every 1000 units of donated blood are contaminated with HIV antibodies. Find the probability that a positive ELISA result for a unit of donated blood is *not* accurate. **(EXAMPLE 4)**

## Practice and Apply



**A bag contains 8 red disks, 9 yellow disks, and 5 blue disks. Two consecutive draws are made from the bag *without* replacement of the first draw. Find the probability of each event.**

9. red first, red second                      10. yellow first, yellow second  
11. red first, blue second                      12. blue first, red second  
13. red first, yellow second                      14. yellow first, red second  
15. yellow first, blue second                      16. red first, blue second

**Two number cubes are rolled, and the first cube shows a 5. Find the probability of each event below for the two cubes.**

17. a sum of 9                      18. two odd numbers                      19. a sum of 7 or 9

**For one roll of a number cube, let  $A$  be the event "even" and let  $B$  be the event "2." Find each probability.**

20. a.  $P(A)$                       b.  $P(A \text{ and } B)$                       c.  $P(B|A)$   
21. a.  $P(B)$                       b.  $P(B \text{ and } A)$                       c.  $P(A|B)$

**For one roll of a number cube, let  $A$  be the event "odd" and let  $B$  be the event "1 or 3." Find each probability.**

22. a.  $P(A)$                       b.  $P(A \text{ and } B)$                       c.  $(B|A)$   
23. a.  $P(B)$                       b.  $P(B \text{ and } A)$                       c.  $P(A|B)$

24. Given  $P(A \text{ and } B) = \frac{1}{4}$  and  $P(A) = \frac{1}{2}$ , find  $P(B|A)$ .  
25. Given  $P(A \text{ and } B) = 0.38$  and  $P(A) = 0.57$ , find  $P(B|A)$ .  
26. Given  $P(B|A) = \frac{1}{3}$  and  $P(A) = \frac{1}{2}$ , find  $P(A \text{ and } B)$ .  
27. Given  $P(B|A) = 0.27$  and  $P(A) = 0.76$ , find  $P(A \text{ and } B)$ .  
28. Given  $P(B|A) = 0.87$  and  $P(A \text{ and } B) = 0.75$ , find  $P(A)$ .  
29. Given  $P(B|A) = \frac{3}{5}$  and  $P(A \text{ and } B) = \frac{1}{2}$ , find  $P(A)$ .