

## PROBLEM SOLVING

### EXAMPLES 3 and 4

on p. 863  
for Exs. 22–23

22. **CONTEST** You can win concert tickets from a radio station if you are the first person to call when the song of the day is played, or if you are the first person to correctly answer the trivia question. The song of the day is played between 5:00 and 5:30 P.M. The trivia question is asked between 5:15 and 5:45 P.M. You begin listening to the radio station at 5:20. Find the probability that you miss the song of the day and the trivia question.

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23. **WALRUS** When a walrus forages for food, it waves its flipper to move sediment 70% of the time. When using the flipper wave technique, a walrus uses its right flipper 89% of the time. Find the probability that a walrus foraging for food uses a flipper and it is the right flipper.



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### EXAMPLES 1, 2, 3, and 4

on pp. 861–863  
for Ex. 24

24. **TX TAKS REASONING** A survey of 887,403 households found that 270,658 households have a dog, 326,591 have a cat, and 81,641 have both.
- What is the probability that one of the households surveyed, chosen at random, has a dog and a cat?
  - What is the probability that one of the households surveyed, chosen at random, has a dog or a cat?
  - Explain* how your answers to parts (a) and (b) are related.

### EXAMPLES 1 and 2

on pp. 861–862  
for Ex. 25

25. **◆ MULTIPLE REPRESENTATIONS** You have student government meetings on Monday and Wednesday. You tutor in the morning on Monday, Thursday, Friday, and Saturday.
- Making a Table** Make a table that shows your schedule for the week.
  - Drawing a Diagram** Make a Venn diagram that shows the days of the week that you participate in each activity.
  - Using a Formula** Your class is taking a field trip that could be scheduled for any day of the week. Find the probability that it is scheduled for a day when you tutor or have a student government meeting.

26. **EARTH SCIENCE** The table shows the ranges of annual mean temperature and precipitation for 57 cities in the U.S. Find the probability that a city in this study has an annual mean temperature in the range 39°F–52°F or an annual precipitation in the range 0–24 inches.

Precipitation (inches)	Temperature (degrees Fahrenheit)	
	39–52	53–66
0–24	7	7
25–49	21	22