# 13 CHAPTER REVIEW

## 13.4 Find Probabilities of Compound Events
*pp. 861–867*

**EXAMPLE**

**The sections of the spinner shown all have the same area. You spin the spinner. Find the probability that the spinner stops on red or on an even number.**

Because 24 is an even number on a red section, stopping on red and stopping on an even number are overlapping events.

$$P(\text{red or even}) = P(\text{red}) + P(\text{even}) - P(\text{red and even})$$

$$= \frac{3}{8} + \frac{3}{8} - \frac{1}{8}$$

$$= \frac{5}{8}$$

### EXERCISES

**You spin the spinner shown above. Find the specified probability.**

**EXAMPLES 1 and 2**
on pp. 861–862
for Exs. 16–19

**16.** $P(\text{green or odd})$ 　　　　**17.** $P(\text{blue or prime number})$

**18.** $P(\text{blue or even})$ 　　　　**19.** $P(\text{red or multiple of 3})$

**EXAMPLE**

**A bag contains 5 red marbles, 3 blue marbles, 6 white marbles, and 2 green marbles. You choose one marble at random, put the marble aside, then choose a second marble at random. What is the probability that both marbles are blue?**

Because you do not replace the first marble, the events are dependent. Before you choose a marble, there are 16 marbles, and 3 of them are blue. After you choose a blue marble, there are 2 blue marbles among 15 marbles left.

$$P(\text{blue and then blue}) = P(\text{blue}) \cdot P(\text{blue given blue})$$

$$= \frac{3}{16} \cdot \frac{2}{15}$$

$$= \frac{6}{240}$$

$$= \frac{1}{40}$$

### EXERCISES

**EXAMPLES 3 and 4**
on p. 863
for Exs. 20–21

**You randomly choose 2 marbles from the bag described in the example above. Find the probability that both are green if:**

**20.** you replace the first marble. 　　**21.** you don't replace the first marble.