



13.1 EXERCISES

HOMEWORK KEY

-  = **WORKED-OUT SOLUTIONS** on p. WS1 for Exs. 3 and 21
-  = **TAKS PRACTICE AND REASONING** Exs. 14, 15, 16, 21, 22, and 24


SKILL PRACTICE

- VOCABULARY** Copy and complete: A number that describes the likelihood of an event is the ? of the event.
- WRITING** Explain how the probability of an event differs from the odds in favor of the event when all outcomes are equally likely.

EXAMPLE 1

on p. 843
for Exs. 3–6

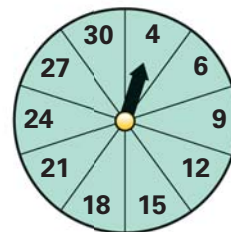
SAMPLE SPACE In Exercises 3–6, find the number of possible outcomes in the sample space. Then list the possible outcomes.

-  A bag contains 4 red cards numbered 1–4, 4 white cards numbered 1–4, and 4 black cards numbered 1–4. You choose a card at random.
- You toss two coins.
- You roll a number cube and toss three coins.
- You roll two number cubes.

EXAMPLE 2

on p. 844
for Exs. 7–8

PROBABILITY AND ODDS In Exercises 7–13, refer to the spinner shown. The spinner is divided into sections with the same area.



- What is the probability that the spinner stops on a multiple of 3?
- ERROR ANALYSIS** Describe and correct the error in finding the probability of stopping on a multiple of 9.


$$\frac{\text{Number of favorable outcomes}}{\text{Total number of outcomes}} = \frac{2}{10} = \frac{1}{5} \quad \times$$

- You spin the spinner 30 times. It stops on 12 three times. What is the experimental probability of stopping on 12?
- You spin the spinner 10 times. It stops on an even number 6 times. What is the experimental probability of stopping on an even number?
- What are the odds in favor of stopping on a multiple of 4?
- What are the odds against stopping on a number less than 12?
- ERROR ANALYSIS** Describe and correct the error in finding the odds in favor of stopping on a multiple of 3.

$$\text{Odds in favor of a multiple of 3} = \frac{\text{Number of favorable outcomes}}{\text{Total number of outcomes}} = \frac{9}{10} \text{ or } 9 : 10 \quad \times$$

-  **TAKS REASONING** The odds in favor of an event are 5 : 8. What are the odds against the event?

- (A) 3 : 8 (B) 8 : 3 (C) 5 : 8 (D) 8 : 5

-  **TAKS REASONING** Describe a real-world event whose probability is 0. Describe another real-world event whose probability is 1.