

**Review 4.1 Probability**

- 1 A number cube is rolled and a quarter is tossed.  
Find  $P(4 \text{ and heads})$ .

A  $\frac{2}{3}$   
B  $\frac{1}{2}$   
C  $\frac{1}{18}$   
D  $\frac{1}{12}$

- 2 There are 4 white and 6 blue tokens in a bag. Once a token is selected, it is not replaced. Find the probability of selecting two white tokens.

F  $\frac{1}{15}$   
G  $\frac{2}{15}$   
H  $\frac{4}{15}$   
J  $\frac{8}{15}$

**FOOD** Use the results of a survey of 120 people shown below.

Favorite Food	
Food	Number
pizza	36
lasagna	31
hamburger	19
other	34

- 3 What is the probability that a person's favorite food is pizza?

A  $\frac{3}{10}$   
B  $\frac{9}{25}$   
C  $\frac{3}{7}$   
D  $\frac{17}{60}$

- 4 Out of 500 people, how many would you expect to have pizza as their favorite food?

F 360 people  
G 180 people  
H 150 people  
J 120 people

- 5 **BASKETBALL** Joyce has made 8 of her last 12 free throws. What is the probability that she will make her next two free throw shots?

A  $\frac{4}{13}$   
B  $\frac{4}{9}$   
C  $\frac{6}{7}$   
D  $\frac{2}{3}$

**ELECTIONS** As voters leave the polling place, 75 voters are surveyed at random. Forty-five voters said they voted for the incumbent mayor.

- 6 What percent said they voted for the incumbent?
- F 45%
  - G 60%
  - H 75%
  - J 50%

**Draw a tree diagram or use the Fundamental Counting Principle to find the number of possible outcomes.**

- 7 A day of the week and a letter of the alphabet are picked at random.
- A 182
  - B 33
  - C 168
  - D 312

**In a bag, there are 5 green candies, 3 red candies, and 7 orange candies. Once a candy is selected, it is not replaced. Find each probability.**

- 8  $P(\text{a red candy and then an orange candy})$
- F  $\frac{1}{10}$
  - G  $\frac{7}{75}$
  - H  $\frac{7}{10}$
  - J  $\frac{1}{6}$
- 9  $P(\text{two green candies})$
- A  $\frac{2}{21}$
  - B  $\frac{2}{3}$
  - C  $\frac{13}{21}$
  - D  $\frac{1}{9}$

**Use the following information. A number cube is rolled and a card is drawn from a deck of ten cards numbered 1 to 10. Find each probability.**

- 10  $P(3 \text{ on the number cube and } 9 \text{ on the card})$
- F  $\frac{1}{240}$
  - G  $\frac{4}{15}$
  - H  $\frac{1}{60}$
  - J  $\frac{1}{8}$
- 11  $P(\text{odd on the number cube and less than } 7 \text{ on the card})$
- A  $\frac{3}{40}$
  - B  $\frac{3}{10}$
  - C  $\frac{1}{2}$
  - D  $\frac{7}{10}$

**FOOD** Use the results of a survey of 120 people shown below.

Favorite Pies	
apple	45
peach	5
blueberry	27
cherry	19
pumpkin	18
raspberry	6

- 12 What is the probability that a person's favorite pie is peach?

F  $\frac{1}{8}$

G 5

H  $\frac{1}{20}$

J  $\frac{1}{24}$

- 13 What is the probability that a person's favorite pie is *not* apple?

A  $\frac{3}{5}$

B  $\frac{3}{4}$

C  $\frac{3}{8}$

D  $\frac{5}{8}$

**ELECTIONS** Use the following information. As voters leave the polling place, 200 voters are surveyed at random. Ninety voters said they voted for the incumbent mayor.

- 14 What percent said they voted for the incumbent?

F 19%

G 35%

H 45%

J 90%

- 15 If 1,200 people vote, how many do you think will vote for the incumbent?

A 228 people

B 420 people

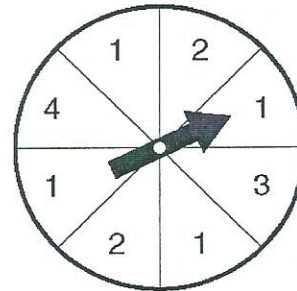
C 540 people

D 1,080 people

**BAND** Use the following information. As students leave an assembly on types of band instruments, 60 students are surveyed at random. Twenty-four students say they want to play the trumpet.

- 16 What percent want to play the trumpet?

Use the spinner below. Write each probability as a fraction, a decimal, and a percent.



17  $P(4)$

18  $P(2)$

19  $P(1 \text{ or } 3)$

20  $P(\text{less than } 5)$

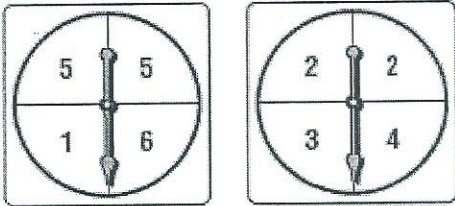
The school store has small, medium, and large shirts in blue, white, and gray. They come with lettering and without.

- 21 Draw a tree diagram to determine the number of possible kinds of shirts.

- 22 If a shirt is chosen at random, what is the probability of selecting a large, blue shirt with lettering?

**Use the following information. A day in June is randomly selected and a number cube is rolled. Find each probability.**

- 23  $P(\text{June 18 and a 3})$
- 24 For a school carnival, Mia creates a game involving the spinners below.



A contestant plays the game by first choosing one of the four rules listed below and then spinning the spinner. Which rule should a contestant choose to have the greatest chance of winning a prize?

- F** Win a prize if the product is greater than 17.  
**G** Win a prize if the product is odd.  
**H** Win a prize if the sum is less than 3.  
**J** Win a prize if the sum or the product is 10.