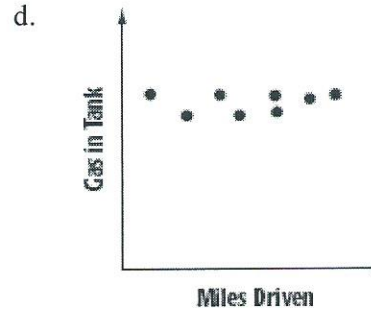
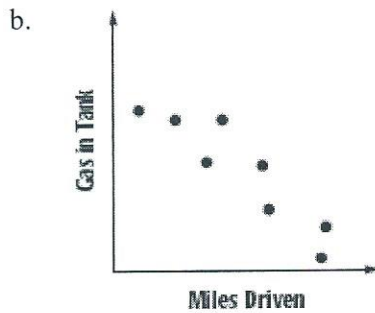
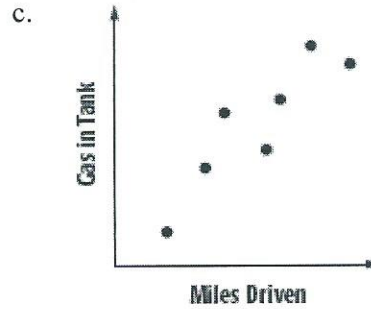
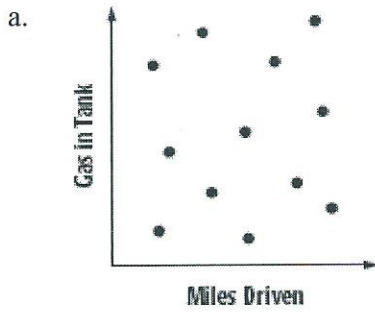


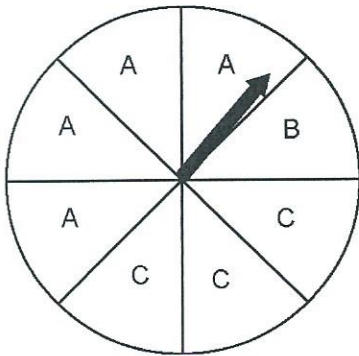
6. A spinner and a fair number cube are used in a game. The spinner has four equal sections: red, blue, yellow, or green. The faces of the cube are numbered 1 through 6. What is the probability of a player spinning the color red and rolling a 5 or 6?

- a. $\frac{1}{24}$
- b. $\frac{1}{12}$
- c. $\frac{1}{7}$
- d. $\frac{7}{12}$

7. Which scatter plot shows the relationship between the number of gallons of gasoline remaining in a motorcycle's tank and the number of miles driven since the tank was filled?



8. A number cube is tossed and the spinner below is spun. Find $P(\text{greater than 4 and A})$.



- a. $\frac{1}{3}$
- b. $\frac{4}{9}$
- c. $\frac{2}{9}$
- d. $\frac{1}{6}$

22. One bag contains 7 blue chips and 3 green chips. Another bag contains 2 blue chips and 5 green chips. A chip is drawn from each bag. What is the probability that both chips are green?
23. A bowl contains 8 red balls and 7 blue balls. One is drawn at random and not replaced. A second ball is then drawn. What is the probability that the first ball is blue and the second is red?
24. Video Palace is running a promotion in which customers can win a free movie. So far, 33 of the first 180 customers have won a free movie. What is the experimental probability of winning a movie?
25. The following table shows the results of tossing three coins 100 times.

Heads	Frequency
0	18
1	30
2	37
3	15

What is the experimental probability of tossing 3 heads?

Statistic review

Answer Section

MULTIPLE CHOICE

1. ANS: C PTS: 1 STA: 8.11(A)
2. ANS: A PTS: 1 STA: 8.12(B)
3. ANS: C PTS: 1 STA: 8.11(A)
4. ANS: B PTS: 1 STA: 8.12(A)
5. ANS: D PTS: 1 STA: 8.11(B)
6. ANS: B PTS: 1 STA: 8.11(A)
7. ANS: B PTS: 1 STA: 8.12(B)
8. ANS: D

The probability of two independent events can be found by multiplying the probability of the first event by the probability of the second event. For example:

$$P(\text{odd and A}) = \frac{1}{2} \times \frac{1}{2} = \frac{1}{4}$$

Feedback	
A	How do you find compound probabilities?
B	Did you find the probabilities of each event and multiply?
C	Did you add the numerators and denominators?
D	Correct!

PTS: 1 DIF: Average REF: Lesson 8-4

OBJ: 8-4.1 Find the probability of independent and dependent events.

STA: 8.11(A) | 8.11(B)

TOP: Find the probability of independent and dependent events.

KEY: Independent events | Dependent events

9. ANS: D

The probability of two independent events can be found by multiplying the probability of the first event by the probability of the second event.

If there are 5 red and 4 yellow in the first bag, and 3 red and 9 yellow in the second for example:

$$\frac{4}{9} \times \frac{9}{12} = \frac{36}{108} = \frac{1}{3}$$

	Feedback
A	That is the probability that the one from the first bag is yellow and from the second is red.
B	That is the probability that both are red.
C	That is the probability that the one from the first bag is red and the second bag is yellow.
D	Correct!

PTS: 1 DIF: Average REF: Lesson 8-4

OBJ: 8-4.1 Find the probability of independent and dependent events.

STA: 8.11(A) | 8.11(B) TOP: Find the probability of independent and dependent events.

KEY: Independent events | Dependent events

10. ANS: A

If two events, A and B, are dependent, then the probability of both events occurring is the product of the probability of A and the probability of B after A occurs.

$$\frac{9}{25} \times \frac{8}{24} = \frac{3}{25}$$

	Feedback
A	Correct!
B	Do not forget that one red ribbon was not replaced.
C	Is the total number of ribbons the same after removing the first one?
D	Is the number of red ribbons still the same?

PTS: 1 DIF: Average REF: Lesson 8-4

OBJ: 8-4.2 Find the probability of independent and dependent real-world events.

STA: 8.11(A) | 8.11(B)

TOP: Find the probability of independent and dependent real-world events.

KEY: Independent events | Dependent events

11. ANS: D

If two events, A and B, are dependent, then the probability of both events occurring is the product of the probability of A and the probability of B after A occurs.

$$\frac{3}{25} \times \frac{2}{24} = \frac{1}{100}$$

	Feedback
A	Do not forget that one green ribbon was not replaced.
B	Is the total number of ribbons the same after removing the first one?
C	Is the number of green ribbons still the same?
D	Correct!

PTS: 1 DIF: Average REF: Lesson 8-4

OBJ: 8-4.2 Find the probability of independent and dependent real-world events.

STA: 8.11(A) | 8.11(B)

TOP: Find the probability of independent and dependent real-world events.

KEY: Independent events | Dependent events

12. ANS: A

If two events, A and B, are dependent, then the probability of both events occurring is the product of the probability of A and the probability of B after A occurs.

$$\frac{7}{25} \times \frac{6}{24} = \frac{7}{100}$$

	Feedback
A	Correct!
B	The ribbon that was not replaced was yellow.
C	Is the number of blue ribbons still the same after the first selection?
D	Is the total number of ribbons the same after removing the first one?

PTS: 1 DIF: Average REF: Lesson 8-4

OBJ: 8-4.2 Find the probability of independent and dependent real-world events.

STA: 8.11(A) | 8.11(B)

TOP: Find the probability of independent and dependent real-world events.

KEY: Independent events | Dependent events

13. ANS: A

	Feedback
A	Correct!
B	That is the probability of rolling less than two on both.
C	That would mean you would always roll greater than two.
D	That is the probability of rolling greater than two with just one cube.

PTS: 1 DIF: Average REF: Lesson 8-4

OBJ: 8-4.2 Find the probability of independent and dependent real-world events.

STA: 8.11(A) | 8.11(B)

TOP: Find the probability of independent and dependent real-world events.

KEY: Independent events | Dependent events

14. ANS: A

The experimental probability of rolling 2 tails is the number of times 2 tails occur over the total number of tosses. Simplify if possible.

	Feedback
A	Correct!
B	That is the experimental probability of one tail.
C	That is the experimental probability of zero tails.
D	That would mean you always rolled two tails.

PTS: 1 DIF: Basic REF: Lesson 8-5
 OBJ: 8-5.1 Find experimental probabilities and use them to make predictions.
 STA: 8.11(A) | 8.11(B)
 TOP: Find experimental probabilities and use them to make predictions.
 KEY: Probability | Experimental probability

15. ANS: A

The experimental probability of rolling a number greater than 4 is the number of rolls greater than four over the total number of rolls.

$$\frac{36}{100} = \frac{9}{25}$$

	Feedback
A	Correct!
B	That is the experimental probability of rolling a 4.
C	That is the experimental probability of rolling less than 4.
D	Was a number greater than 4 rolled fifty times?

PTS: 1 DIF: Average REF: Lesson 8-5
 OBJ: 8-5.1 Find experimental probabilities and use them to make predictions.
 STA: 8.11(A) | 8.11(B)
 TOP: Find experimental probabilities and use them to make predictions.
 KEY: Probability | Experimental probability

16. ANS: A

Set up the problem as a proportion, and solve for the variable.

	Feedback
A	Correct!
B	This is correct for white marbles.
C	This is correct for red marbles.
D	This is correct for blue marbles.

PTS: 1 DIF: Average REF: Lesson 8-5
 OBJ: 8-5.2 Find theoretical probabilities and use them to make predictions.
 STA: 8.11(A) | 8.11(B)
 TOP: Find theoretical probabilities and use them to make predictions.
 KEY: Probability | Theoretical probabilities | Predictions

17. ANS: C

Combine the table results of the two colors. Then set up the problem as a proportion, and solve for the variable.

	Feedback
A	This is the result for green and white marbles.
B	This is correct for green and red marbles.
C	Correct!
D	This would be correct for green and blue marbles.

PTS: 1 DIF: Advanced REF: Lesson 8-5
 OBJ: 8-5.2 Find theoretical probabilities and use them to make predictions.
 STA: 8.11(A) | 8.11(B)
 TOP: Find theoretical probabilities and use them to make predictions.
 KEY: Probability | Theoretical probabilities | Predictions

18. ANS: A

Because a newborn can be either a male or female, flipping a coin 3 times will result in the solution.

	Feedback
A	Correct!
B	This is correct if there is only one newborn and 6 possible genders!
C	This would work for one puppy, but we're expecting more.
D	This would be correct if there were 6 possible genders.

PTS: 1 DIF: Basic REF: Lesson 8-7
 OBJ: 8-7.1 Perform probability simulations to model real-world situations involving uncertainty.
 STA: 8.11(C)
 TOP: Perform probability simulations to model real-world situations involving uncertainty.
 KEY: Probability | Models | Simulations | Real-world | Uncertainty

19. ANS: A

This is a biased sample since only the first five crates were checked. This is a convenience sample.

	Feedback
A	Correct!
B	Are the potatoes selected according to a specific time or item interval?
C	Is each potato as likely to be chosen as any other?
D	Is this sample unbiased?

PTS: 1 DIF: Average REF: Lesson 8-8
 OBJ: 8-8.1 Predict the actions of a larger group by using a sample.
 STA: 8.13(A) | 8.14(A) TOP: Predict the actions of a larger group by using a sample.
 KEY: Predictions | Sample space

SHORT ANSWER

20. ANS:

Since the green ribbon is not replaced, there is one less ribbon in the drawer when you draw the second ribbon.

$$\frac{3}{25} \times \frac{9}{24} = \frac{27}{600} = \frac{9}{200}$$

PTS: 1 DIF: Average REF: Lesson 8-4

OBJ: 8-4.2 Find the probability of independent and dependent events in real-world events.

STA: 8.11(A) | 8.11(B)

TOP: Find the probability of independent and dependent events in real-world events.

KEY: Independent events | Dependent events

21. ANS:

Since the first ribbon is not replaced, there is one less ribbon in the drawer when you draw the second ribbon. Also, there is one less ribbon that is not blue.

$$\frac{19}{25} \times \frac{18}{24} = \frac{57}{100}$$

PTS: 1 DIF: Average REF: Lesson 8-4

OBJ: 8-4.2 Find the probability of independent and dependent events in real-world events.

STA: 8.11(A) | 8.11(B)

TOP: Find the probability of independent and dependent events in real-world events.

KEY: Independent events | Dependent events

22. ANS:

Since these are independent events, multiply the probabilities of the events to obtain the compound probability.

$$\frac{3}{10} \times \frac{5}{7} = \frac{15}{70} = \frac{3}{14}$$

PTS: 1 DIF: Average REF: Lesson 8-4

OBJ: 8-4.2 Find the probability of independent and dependent events in real-world events.

STA: 8.11(A) | 8.11(B)

TOP: Find the probability of independent and dependent events in real-world events.

KEY: Independent events | Dependent events

23. ANS:

Since the first ball is not replaced, these are dependent events. After the first ball is drawn, there is one less ball in the bowl for the second draw.

$$\frac{7}{15} \times \frac{8}{14} = \frac{56}{210} = \frac{4}{15}$$

PTS: 1 DIF: Average REF: Lesson 8-4

OBJ: 8-4.2 Find the probability of independent and dependent events in real-world events.

STA: 8.11(A) | 8.11(B)

TOP: Find the probability of independent and dependent events in real-world events.

KEY: Independent events | Dependent events

24. ANS:

The experimental probability of winning a movie is the number of winners over the total number of customers.

$$\frac{33}{180} = \frac{11}{60}$$

PTS: 1 DIF: Basic REF: Lesson 8-5
OBJ: 8-5.1 Find experimental probability and use them to make predictions.
STA: 8.11(A) | 8.11(B)
TOP: Find experimental probability and use them to make predictions.
KEY: Probability | Experimental probability

25. ANS:

The experimental probability of tossing 3 heads is the number of times 3 heads are tossed over the total number on times the coins are tossed.

$$\frac{15}{100} = \frac{3}{20}$$

PTS: 1 DIF: Basic REF: Lesson 8-5
OBJ: 8-5.1 Find experimental probability and use them to make predictions.
STA: 8.11(A) | 8.11(B)
TOP: Find experimental probability and use them to make predictions.
KEY: Probability | Experimental probability