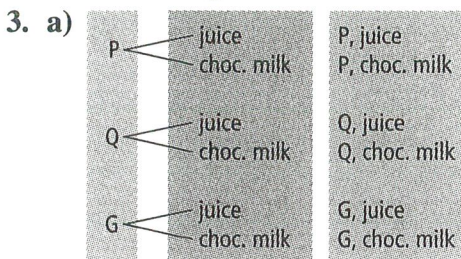


Answer Key

Sample Space

5.3 Probabilities of Simple Independent Events

- favourable, divide, outcomes
- tree, table, organizer



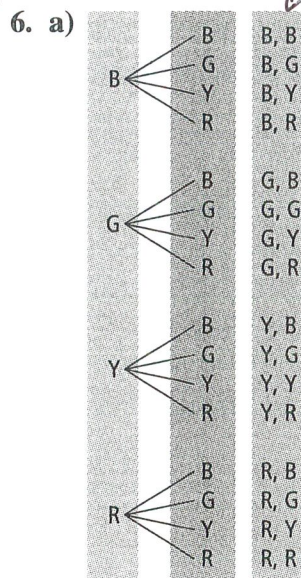
b) $\frac{1}{6}$, 1:6, or 16.7%

4. a) Answers will vary. For example: Student A and Student Z get to spin a spinner with A, B, C, D, E to pick which question they will answer.
- b) Answers will vary. For example: What is the probability that student A will spin question B?
 $P(\text{student A, question B}) = \frac{1}{10}$, 1:10, or 10%

5. a)

City	Home		
	House	Apartment	Condo
Va	H, Va	A, Va	C, Va
Vi	H, Vi	A, Vi	C, Vi
B	H, B	A, B	C, B
W	H, W	A, W	C, W
C	H, C	A, C	C, C
E	H, E	A, E	C, E
R	H, R	A, R	C, R
S	H, S	A, S	C, S

- b) 24
- c) $\frac{1}{24}$, 1:24, or 4%
- d) $\frac{4}{24}$, 4:24, or 17%



b) $\frac{2}{16}$, 2:16, or 13%

c) 12

7. a)

Numbered Spinner				
Colour Die	1	2	3	4
Blue	B, 1	B, 2	B, 3	B, 4
Green	G, 1	G, 2	G, 3	G, 4
Yellow	Y, 1	Y, 2	Y, 3	Y, 4
Red	R, 1	R, 2	R, 3	R, 4
White	W, 1	W, 2	W, 3	W, 4
Pink	P, 1	P, 2	P, 3	P, 4

b) $\frac{1}{24}$, 1:24, or 4.2%

c) $\frac{4}{24}$ or $\frac{1}{6}$, 4:24 or 1:6, 16.7%

5.4 Applications of Independent Events

1.

A	H	V	N	G	W	B	F	O	E	C	O
I	E	J	X	C	K	Y	B	L	M	P	U
M	V	T	A	B	L	E	K	Q	Z	N	T
D	E	G	I	R	T	H	U	O	A	D	C
U	N	S	B	W	A	T	Z	R	U	O	O
L	T	R	E	E	D	I	A	G	R	A	M
E	S	F	Y	C	G	S	V	A	J	P	E
D	O	Z	N	X	M	E	L	N	V	E	S
T	K	Y	S	J	F	I	R	I	Q	I	H
A	P	H	B	Q	X	R	C	Z	W	F	G
I	N	D	E	P	E	N	D	E	N	T	D

2. a)

	Juice	Water	Milk
Apple	A, J	A, W	A, M
Orange	O, J	O, W	O, M
Carrots	C, J	C, W	C, M
Banana	B, J	B, W	B, M

b) $\frac{4}{12}$, 4:12, or 33.3%

c) $\frac{1}{2}$, 1:12, 8.3%

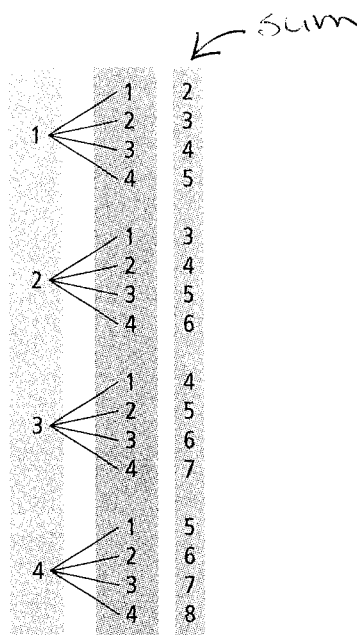
3. a)

B	<ul style="list-style-type: none"> windows garbage dishes 	<ul style="list-style-type: none"> B, windows B, garbage B, dishes
Du	<ul style="list-style-type: none"> windows garbage dishes 	<ul style="list-style-type: none"> Du, windows Du, garbage Du, dishes
V	<ul style="list-style-type: none"> windows garbage dishes 	<ul style="list-style-type: none"> V, windows V, garbage V, dishes

b) $\frac{1}{9}$, 1:9, or 11.1%

c) Answers will vary. Make sure your probability matches the combination that you choose.

4. a)



b) $\frac{8}{16}$, 8:16, or 50%

c) Answers may vary. For example, a sum of 5 or greater.

5.5 Conduct Probability Experiments

- Experimental probability
- Theoretical probability
- Experimental probability
- a) $P(\text{game 2}) = \frac{22}{100}$, 22:100, or 22%

b) $P(\text{game 2}) = \frac{25}{100}$, 25:100, or 25%

c) Experimental probability is less than the theoretical probability.

d) Experimental probability would equal the theoretical probability. $\frac{25}{100}$, 25:100, or 25%
- a) $\frac{8}{20}$, 8:20, or 40%

b) $\frac{10}{20}$, 10:20, or 50%

c) The experimental probability is less than the theoretical probability.

6. a) Answers will vary. For example,

Coin Outcomes	Experimental Results
H, H	3
H, T	5
T, H	6
T, T	6

- b) Answers will vary. For example:

What is the experimental probability of not getting any tails?

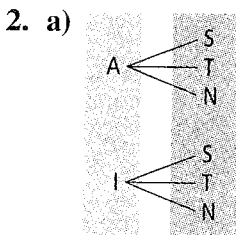
$$P(\text{no tails}) = \frac{22}{100}, 22:100, \text{ or } 20\%$$

What is the theoretical probability of not getting any tails?

$$P(\text{no tails}) = \frac{25}{100}, 25:100, \text{ or } 25\%$$

5 Link It Together

- 60
 - $\frac{30}{60}$, 30:60, or 50%
 - $\frac{30}{60}$, 30:60, or 50%
 - $\frac{42}{60}$, 42:60, or 70%



- b) $\frac{2}{6}$, 2:6, or 33%

5 Vocabulary Link

- h) sample space
- e) outcome
- f) probability
- a) equally likely
- c) favourable outcome
- i) tally chart
- d) independent
- k) tree diagram
- j) theoretical

- g) random
- b) experimental

6 Get Ready

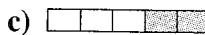
- 1, 2, 3, 6
 - 1, 2, 5, 10
 - 1, 2, 3, 4, 6, 8, 12, 24
- 100, 456, 294. Answers may vary.
For example, they are even numbers.

3. a) $\frac{3}{4}$

b) $\frac{5}{6}$

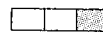
c) $\frac{1}{2}$

4. Diagrams may vary.

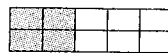


5. Answers may vary.

a) $\frac{4}{12} = \frac{1}{3}$



b) $\frac{2}{5} = \frac{4}{10}$



6. Answers may vary.

a) $\frac{1}{2}$ $\frac{2}{4}$

b) $\frac{8}{10}$

$\frac{4}{5}$

c) $\frac{3}{4}$

$\frac{9}{12}$

7. a) 0

b) 1

c) $\frac{1}{2}$

d) $\frac{1}{2}$