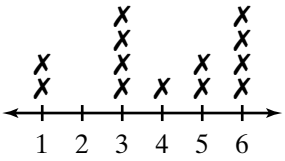
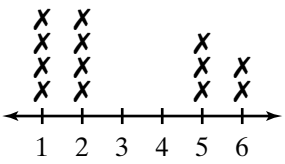
Chapter 12 Support File Answers

Practice 12-1

1. 5



2. 5



3.

Number	1	2	3	4	5	6
Frequency	2	2	1	4	3	4

4.

Number	1	2	3	4
Frequency	4	2	4	1

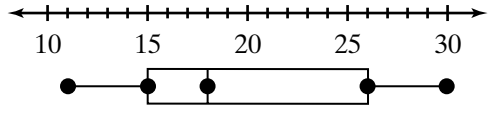
5.

Pupils per Teacher	14	15	16	17	18	19	20	21	22	23	24
Frequency	6	7	10	13	4	4	4	0	0	0	2

6. 10 pupils per teacher

Practice 12-2

1. 55 miles, 15 miles **2.** 35 miles **3.** 75%
4. 6 runners
5.



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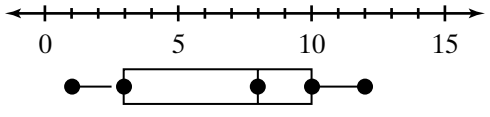

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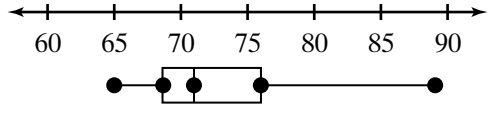

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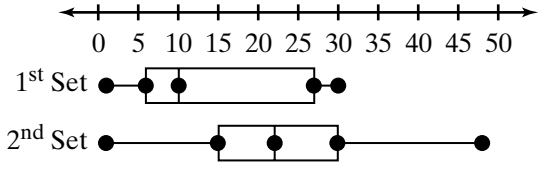

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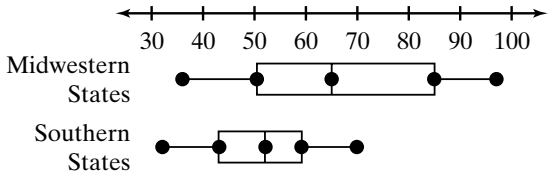
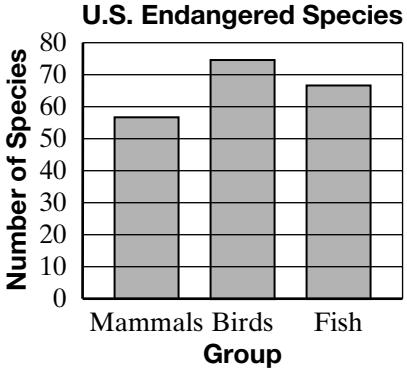
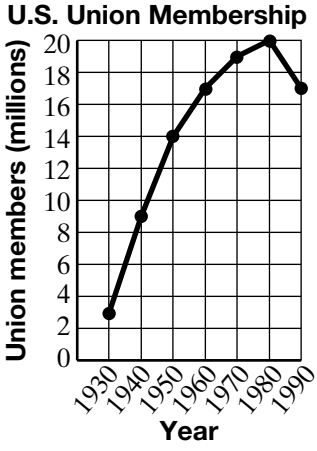


Practice 12-3

1. birds **2.** no **3.** the break in the vertical axis
4.



5. The differences seem much less.
6.



7.

8. The horizontal scales are different.

Practice 12-4

1. m1A, m1B, m1C, m2A, m2B, m2C, m3A, m3B, m3C, m4A, m4B, m4C **2.** $\frac{1}{3}$ **3.** $\frac{1}{12}$ **4.** 6 choices; AM, AN, BM, BN, CM, CN **5.** 8 combinations; P1C1, P1C2, P2C1, P2C2, P3C1, P3C2, P4C1, P4C2 **6.** 140 routes **7.** 468 combinations

Practice 12-5

1. $\frac{1}{5}$ **2.** $\frac{1}{15}$ **3.** $\frac{1}{10}$ **4.** 0 **5.** $\frac{1}{4}$ **6.** $\frac{1}{8}$ **7.** $\frac{1}{4}$
8. $\frac{1}{32}$ **9.** $\frac{6}{11}$ **10.** $\frac{1}{22}$ **11.** $\frac{1}{11}$ **12.** $\frac{5}{33}$ **13.** $\frac{1}{11}$
14. Dependent; the second guest's choice is limited by the first guest's choice. **15.** Independent; the second flip is not affected by the first. **16.** $\frac{1}{81}$
17. $\frac{1}{72}$

Practice 12-6

1. 42 **2.** 21 **3.** 336 **4.** 3,024 **5.** 3 **6.** 210
7.a. 24 **b.** 120 **c.** 24 **d.** $\frac{1}{5}$ **8.** 10 **9.** 42,840
10. 30 **11.** 120 **12.** 360 **13.** 720 **14.** 720

Practice 12-7

1. 40% **2.** 26.7% **3.** 20% **4.** 13.3%
5. 53.3% **6.** 73.3% **7.** 40% **8.** 0% **9.** 10%
10. 55% **11.** 30% **12.** 5% **13.** 65%
14. 95% **15.** 35% **16.** $\frac{1}{3}$ **17.** $\frac{2}{3}$ **18.** $\frac{7}{33}$

Practice 12-8

1. 320 students **2.** 352 students **3.** 200 students **4.** 192 students **5.** The views of people coming out of a computer store may not represent the views of other voters. This is not a good sample because it is not random. **6.** The city telephone book may cover more than one school district. It would also include people who do not vote. This is not a good sample because it does not represent the population. **7.** This is a good sample. It is selected at random from the population you want to study.

Practice 12-9

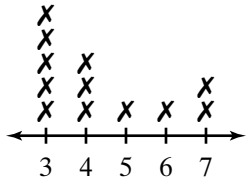
1. 3 **2.a.** December 13 **b.** 17 **3.** Sample answer is shown. 1-2 right, 4-5 right, 2-4 right
4. Sample answers are shown. **a.** $\frac{1}{10}$ **b.** $\frac{1}{15}$ **c.** $\frac{1}{25}$

Reteaching 12-1

1.

Inches	3	4	5	6	7
Frequency	5	3	1	1	2

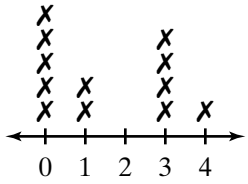
Charleston Rainfall



2.

Inches	0	1	2	3	4
Frequency	5	2	0	4	1

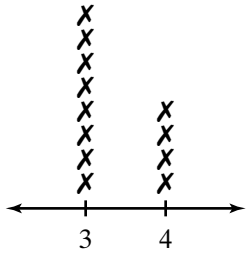
San Francisco Rainfall



3.

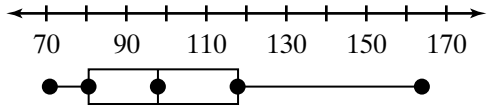
Inches	3	4
Frequency	8	4

Wilmington Rainfall

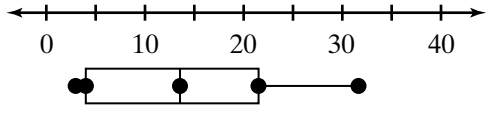


Reteaching 12-2

1. 98, 80.5, 118

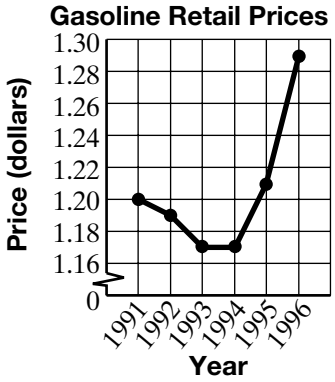


2. 13, 4, 21

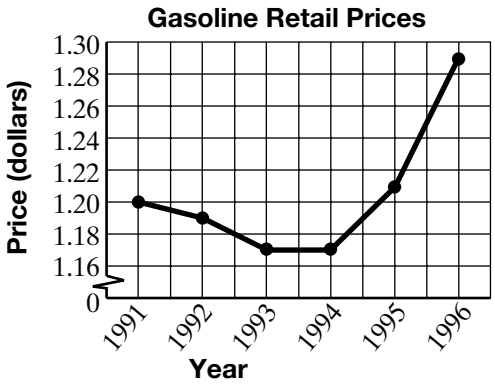


Reteaching 12-3

1.



2.



3. The first graph implies that prices decreased rapidly from 1991 to 1993 and increased rapidly from 1994 to 1996. The second graph implies slower changes.

Reteaching 12-4

1. 18 possible outcomes **2.** C1-S1-F1, C1-S1-F2, C1-S1-F3, C1-S2-F1, C1-S2-F2, C1-S2-F3, C1-S3-F1, C1-S3-F2, C1-S3-F3, C2-S1-F1, C2-S1-F2, C2-S1-F3, C2-S2-F1, C2-S2-F2, C2-S2-F3, C2-S3-F1, C2-S3-F2, C2-S3-F3 **3.** $\frac{1}{3}$ **4.** $\frac{1}{9}$

Reteaching 12-5

1. $\frac{1}{25}$ **2.** $\frac{3}{50}$ **3.** $\frac{3}{100}$ **4.** $\frac{9}{100}$ **5.** $\frac{1}{45}$ **6.** $\frac{1}{15}$ **7.** $\frac{1}{30}$ **8.** $\frac{1}{10}$

Reteaching 12-6

1. 10 choices **2.** 5 choices **3.** 60 numbers **4.** 210 cones

Reteaching 12-7

1. 23.3% **2.** 16.7% **3.** 20% **4.** 50% **5.** 33.3% **6.** 70% **7.** 63.3% **8.** 0% **9.** 100% **10.** 73.3% **11.** 56.7% **12.** 43.3%

Reteaching 12-8

1. 160 shirts, $\frac{8}{400} = \frac{x}{8{,}000}$ **2.** 144 shirts, $\frac{9}{500} = \frac{x}{8{,}000}$ **3.** 480 games, $\frac{16}{400} = \frac{x}{12{,}000}$ **4.** 450 games, $\frac{30}{800} = \frac{x}{12{,}000}$ **5.** 456 games, $\frac{19}{500} = \frac{x}{12{,}000}$ **6.** 459 games, $\frac{65}{1{,}700} = \frac{x}{12{,}000}$

Reteaching 12-9

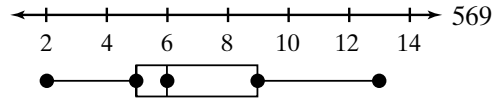
1. 1, 5, 4, 0 **2.** 50% **3.** 40% **4.** 90% **5.** 40% **6.** 60%

Enrichment 12-1

1. 5 countries **2.** 1, 3, 5, 2 **3.** 27 births per 1,000 people **4.** No. The exact lowest and highest rates are not included in the table. **5.** 1, 2, 1, 4, 1, 2

Enrichment 12-2

1.



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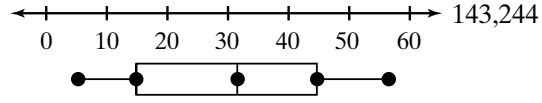
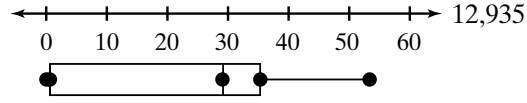
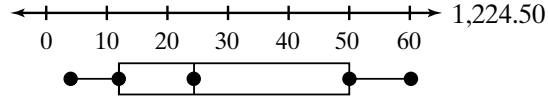


3.



4.

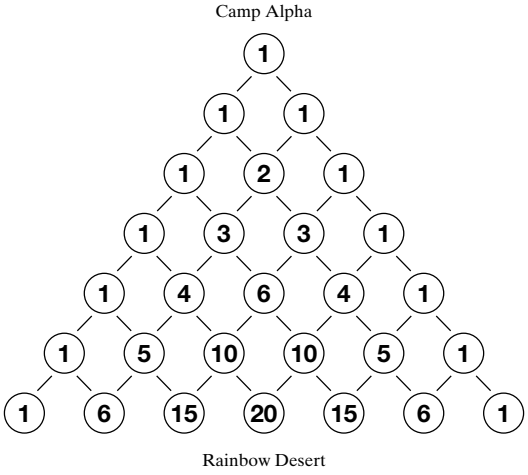


Enrichment 12-3

Check students' graphs. **1.** red **2.** two times **3.** Sample answer is shown. 62.5 to 412.5 by 50 **4.** 3 times **5.** Sample answer is shown. about 5 times **6.** the second graph **7.** Sample answer is shown. 0 to 6,500 by 500's **8.** Sample answer is shown. 0 to 1,000 by 200's **9.** the first graph

Enrichment 12-4

1. 1 **2.** 1 **3.** 1 **4.** 1 **5.** 1 **6.** 1 **7.** 2
8. 3, 3
9.

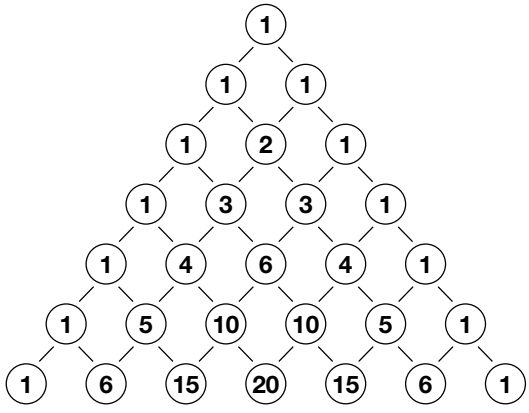


Enrichment 12-5

1. $\frac{3}{5}$ **2.** $\frac{1}{7}$ **3.** $\frac{1}{1}$ **4.** $\frac{1}{119}$ **5.** $\frac{1}{14}$ **6.** $\frac{1}{4}$ **7.** $\frac{1}{7}$
8. $\frac{119}{1}$ **9.** $\frac{14}{1}$ **10.** $\frac{4}{1}$ **11.** $\frac{7}{1}$

Enrichment 12-6

1. 60 **2.** 360 **3.** 360 **4.** 840 **5.** 6,720
6. 6,720 **7.** ${}_{10}P_3 = 10 \cdot {}_9P_2 = 10 \cdot 72 = 720$
8. 56 **9.** 56 **10.** 495 **11.** 495 **12.** ${}_9C_6$
13. ${}_{15}C_{11}$
14.



Enrichment 12-7

Check students' tables. **1.** 40 **2.** Answer should be close to 24. **3.** Answer should be about 3.16. **4.** Check students' calculations.

Enrichment 12-8

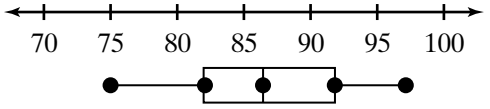
1. 5 times **2–4.** Answers may vary. **5.** yes **6.** Answers may vary. **7.** Answers may vary. Sample: Yes; tossing 40 coins at once results in 40 independent events, the same as if you tossed one coin 40 times.

Enrichment 12-9

1. 34 tickets **2.** 1, 34; 2, 26; 3, 28; 4, 21; 5, 23; 6, 19; 7, 33; 8, 29; 9, 46; 10, 26; 11, 19; 12, 45; 13, 51; 14, 33 **3.** 31 (in 14 trials) **4.** The average of many trials using different tables would result in approximately the same answer. **5.** by conducting more trials

Checkpoint 1

1. 91, 2; 92, 1; 93, 3; 94, 4; 95, 2
2.



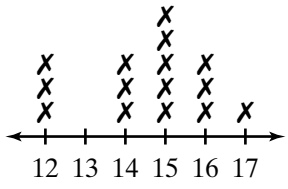
86.5, 82, 92, 22 **3.** $\frac{1}{9}$

Checkpoint 2

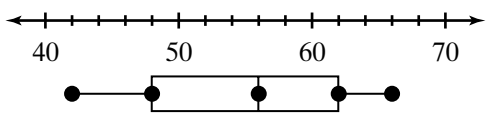
1. 56 ways **2.** 336 ways **3.** 22% **4.** 3 hits
5. C

Chapter 12 Test Form A

1. C **2.** G **3.** D **4.** F **5.** B **6.** H **7.** A
8. J **9.** about 467 jars **10.** 12, 3; 13, 0; 14, 3; 15, 5; 16, 3; 17, 1
11. **12.** 5



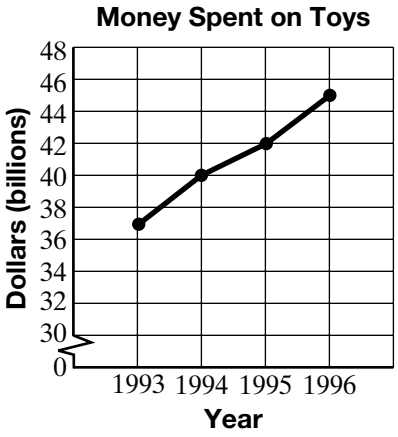
13.



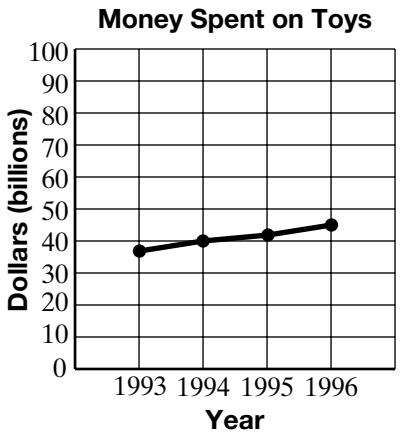
14. GB, GY, GR, GW, YB, YY, YR, YW, BB, BY, BR, BW **15.** $\frac{1}{12}$

Sample answers are shown.

16.

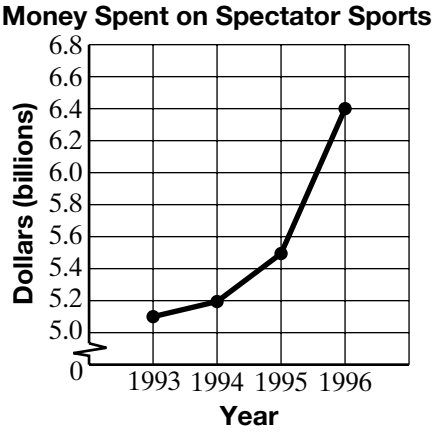


17.

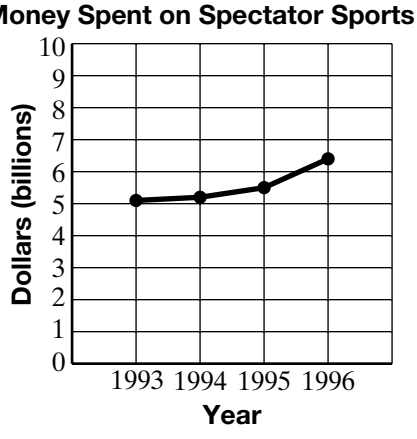


Sample answers are shown.

16.



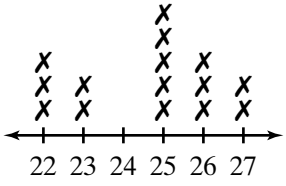
17.



Chapter 12 Test Form B

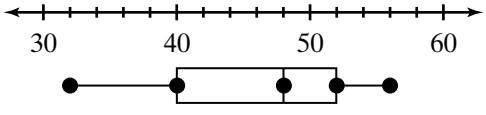
1. D **2.** H **3.** A **4.** G **5.** A **6.** J **7.** B **8.** H **9.** about 533 pens **10.** 22, 3; 23, 2; 24, 0; 25, 5; 26, 3; 27, 2

11.



12. 5

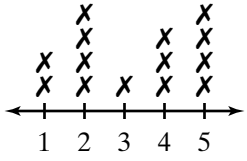
13.



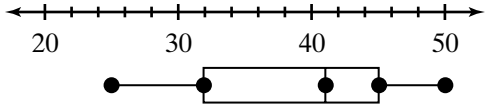
14. RB, RW, RR, BB, BW, BR, GB, GW, GR, YB, YW, YR **15.** $\frac{1}{12}$

Chapter 12 Alternative Assessment

1. Sample answer is shown. Numbers of goals made in 14 soccer games.



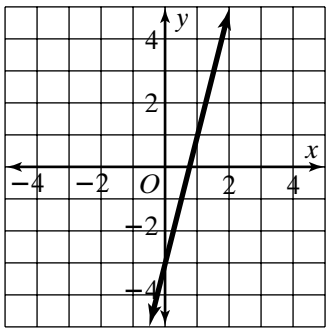
2.



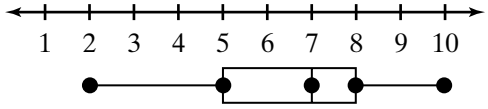
3. Sample answer is shown. When each outcome is equally likely, you can find theoretical probability by counting outcomes. On the other hand, experimental probability is based on experimental data. **4.** Sample answer is shown. Students lining up for lunch. **5.** The events would be dependent if you do not replace the first ball before drawing the second. $P(2 \text{ red}) = \frac{3}{8} \cdot \frac{2}{7} = \frac{3}{28}$

Chapter 12 Cumulative Review

1. A **2.** J **3.** B **4.** J **5.** A **6.** H **7.** B
8. H **9.** A **10.** G **11.** C **12.** x^{15} **13.** $72a^{10}$
14. $\frac{125k^3}{m^6}$ **15.** $\frac{3y^5}{5x}$
16.



17. $\frac{9}{49}$
18. $\frac{1}{7}$
19.



20. Sample answer is shown. A population is a group about which you want information. A sample is just part of the population you use to make predictions about the whole population.