Answer Key

Lesson 1-1

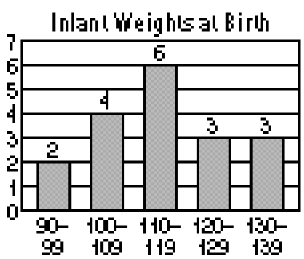
1a. You know the number of species in each group. You need to find the total number of species. b. Add the numbers for all groups. c. The total is 4,888,288 species. d. Round the number of species in each group to the nearest thousand and add. This gives an estimate of 4,889,000. This is close to the calculated answer. So the answer seems reasonable.

Lesson 1-10

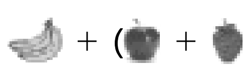
1.

Weight	Number
90–99	2
100–109	4
110–119	6
120–129	3
130–139	3

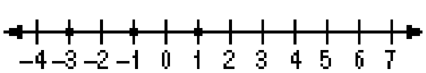
3.

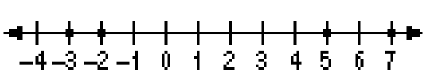


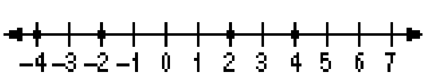
Chapter 1 Review

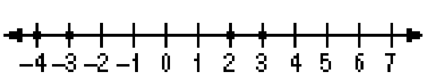
1. 9 2. -10 3. 36 4. $-3x + 4$
5. $5x - 2$
Drawing: 

Lesson 2-1

1.


2.


3.


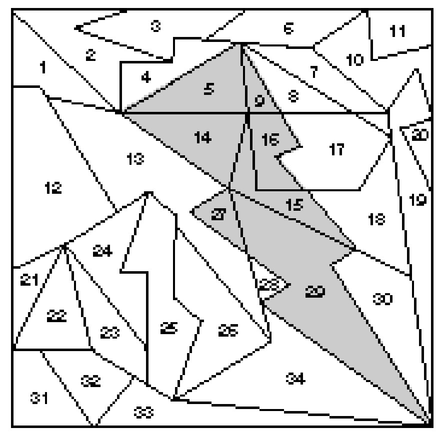
4.


Chapter 2 Review

1st Play: 12; 28
2nd Play: -5; 33
3rd Play: 18; 15
4th Play: 16; -1
Yes. The negative number, -1, signifies a touchdown.

Chapter 3 Review

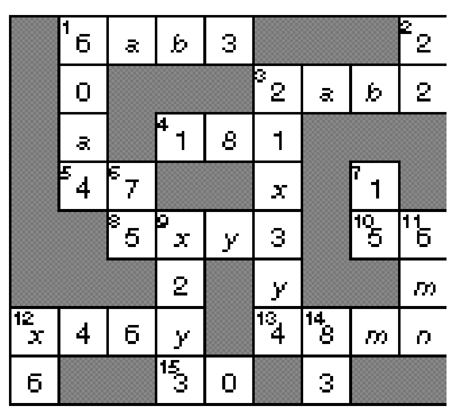
1. $x < -1$ 2. $x = -8$ 3. $x = 4$
4. $x < 16$ 5. $x > 16$ 6. $x = 6$
7. $x = -27$
The hidden picture looks like this:



Chapter 4 Review

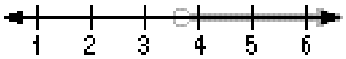
ACROSS 1. $6ab^3$ 3. $\frac{2a}{b^2}$ 4. $\frac{1}{81}$ 5. $\frac{4}{7}$
8. $\frac{5x}{y^3}$ 10. 56 12. $\frac{x^4}{6y}$ 13. $48mn$
15. 30

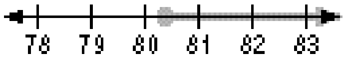
DOWN 1. $60a^4$ 2. 22 3. $21x^3y^4$ 6. 7^5
7. 15 9. x^2y^3 11. $6mn$ 12. x^6 14. 8^3

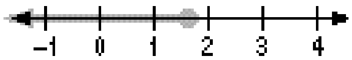


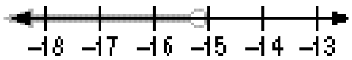
Answer Key

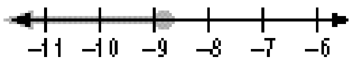
Lesson 5-7

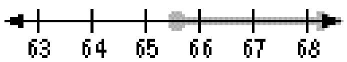
1. $b > 3.7$ 

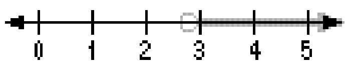
2. $m \geq 80.41$ 

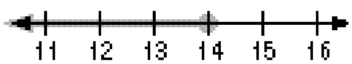
3. $h \leq 1.66$ 

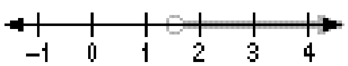
4. $x < -15.2$ 

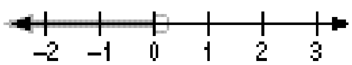
5. $a \leq -8.8$ 

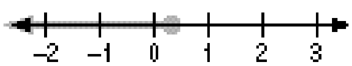
6. $w \geq 65.6$ 

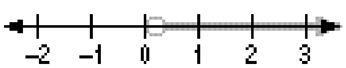
7. $p > 2.83$ 

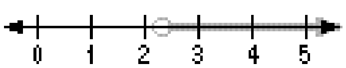
8. $k \leq 13.98$ 

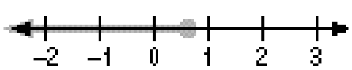
9. $z > 1\frac{6}{11}$ 

10. $q < \frac{1}{8}$ 

11. $t \leq \frac{1}{3}$ 

12. $n > \frac{2}{9}$ 

13. $c \geq 2\frac{1}{3}$ 

14. $w \leq \frac{5}{8}$ 

Chapter 5 Review

1. Andrew: $a = 0.3$; Nancy: $n = 0.25$; Jocelyn: $j = \frac{2}{5}$; Samantha: $s = \frac{1}{10}$; Mark: $m = \frac{1}{20}$

2. $\frac{1}{20}, \frac{1}{10}, \frac{1}{4}, \frac{3}{10}, \frac{2}{5}$

3. Jocelyn ate the most, and Mark at the least. 4. Drawings may vary so long as sizes of each slice are correct relative to each other.

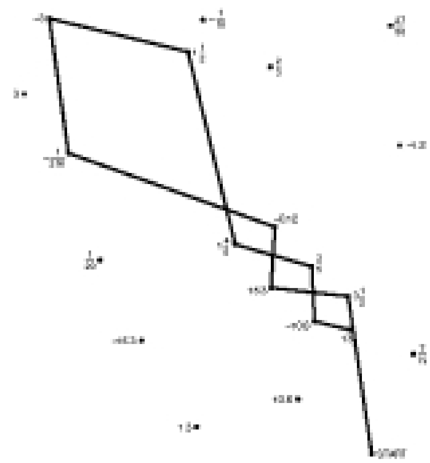
Chapter 6 Review

1. $n = 3\frac{1}{2}$ 2. $k = 15.3$ 3. $y = -0.12$

4. $p = -\frac{1}{216}$ 5. $w = -3$ 6. $r = 1\frac{1}{2}$

7. $a = 1\frac{4}{5}$ 8. $m = \frac{3}{5}$ 9. $t = -10.6$

10. $c = 13$

Drawing: 

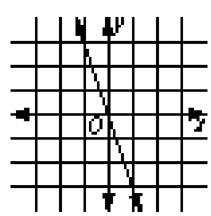
Chapter 7 Review

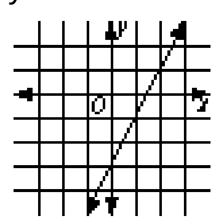
1. 40 2. −50 3. 1200 4. 3850
5. 1925 6. 1975

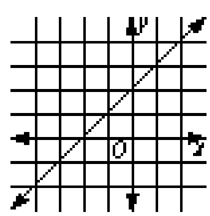
Mrs. Acevedo was born in 1975, so subtract that year from the current year to find her age.

Lesson 8-3

4–6. Solutions will vary.

4. 

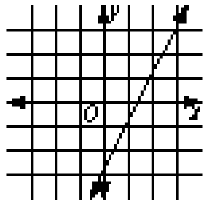
5. 

6. 

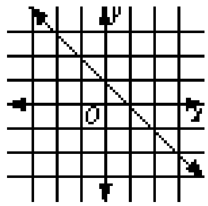
Answer Key

Lesson 8-7

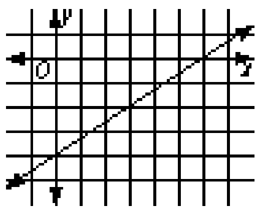
1. x-intercept: $1\frac{1}{2}$; y-intercept: -3



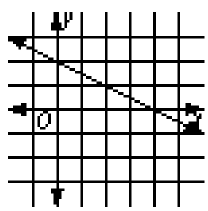
2. x-intercept: 1; y-intercept: 1



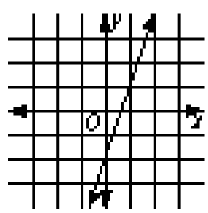
3. x-intercept: 6; y-intercept: -4



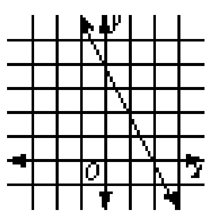
4. x-intercept: 4; y-intercept: 2



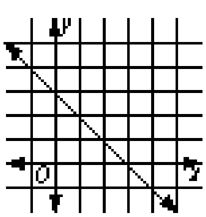
5. x-intercept: $\frac{2}{3}$; y-intercept: -2



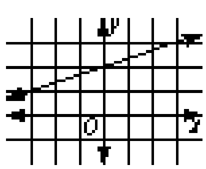
6. x-intercept: 2; y-intercept: 4



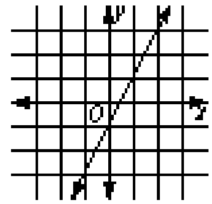
7.



8.

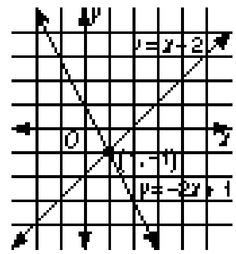


9.

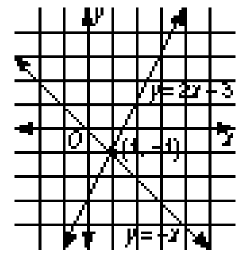


Lesson 8-8

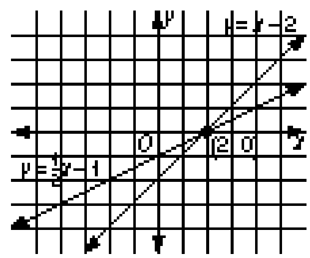
2.



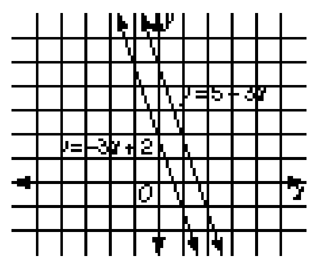
9.



10.

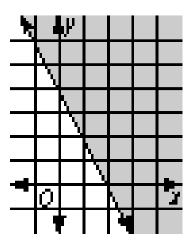


11. no solution

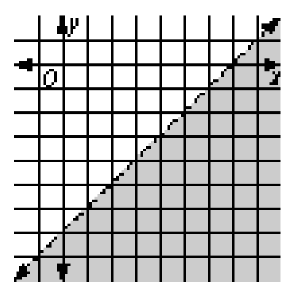


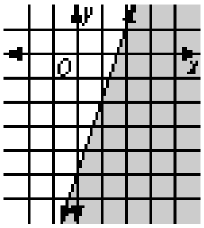
Lesson 8-9

2.



6.



7.


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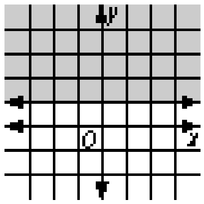
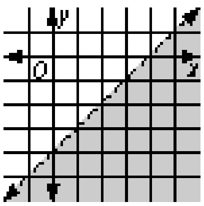
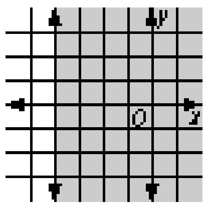
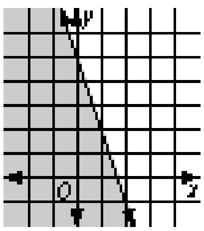


9.


10.


11.


Chapter 8 Review

1. f(x) and g(x) 2. $x = -3$ 3. $y = 0$
4. 1 5. f(x) only 6. -4

The solution to the puzzle is
BOILED EGGS.

Chapter 9 Review

1–15. Sample answers are given.
1. Kelton 2. 3 out of 4 3. Steve
4. 2.5 5. Jack 6. $6.75 7. Monique
8. 2 out of 5 9. Kelton 10. Kelton
11. 0.3 12. 90% 13. 0.4 14. 75%
15. $\frac{9}{10}$ 16. $14.40 17. 1020 were male.
18a. 17.5% 18b. 82.5%

Lesson 10-1

1.

1	2 2 8
2	2 7
3	3
4	2 3

4|2 means 42.

2.

8	1
9	1
10	5 9
11	4 5 9
12	0

12|0 means 120.

3.

5	1 3 7 9
6	1 3 8
7	
8	1 9
9	0

9|0 means 9.0.

4.

0	3 5 7
1	0 1 5 8
2	1 2
3	0

3|0 means 30.

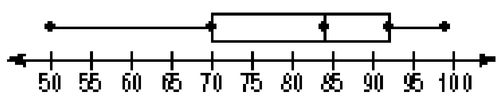
5.

28	4
29	2
30	5 7 9
31	6
32	
33	2

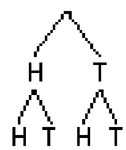
28|4 means $28,400.

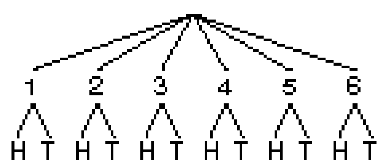
median price: $30,700; Choice of the better representation will vary.

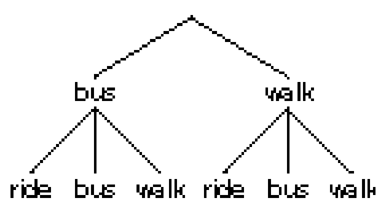
Lesson 10-3

4.


Lesson 10-5

1.


3.


4.


Answer Key

Chapter 10 Review

1–5. Sample answers are given.

1.

Name	Age
Mom	38
Dad	41
Me	13
Larry	8
Juanita	4
Grandma	63
Grandpa	68
Uncle Juan	25
Aunt Mary	30
Cousin Margarita	2

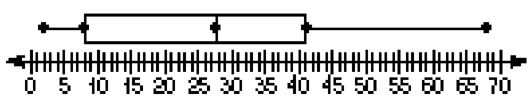
2.

6	3 8
5	
4	1
3	0 8
2	5
1	3
0	2 4 8

2|5 means 25.

range: 66; median: 27.5; upper quartile: 41; lower quartile: 8; interquartile range: 33

3.



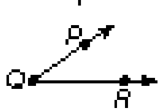
4. I think that the stem-and-leaf plot best models the data because it organizes the data so you can easily see the range of ages from least to greatest.

5a. $\frac{1}{10}$ 5b. $\frac{3}{10}$ 5c. $\frac{1}{10}$ 5d. 9

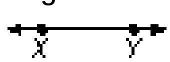
Lesson 11-1

1–7. Sample answers are given.

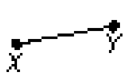
1.



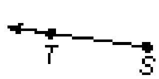
2.



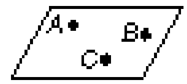
3.



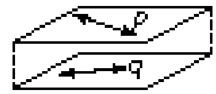
4.



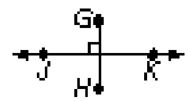
5.



6.

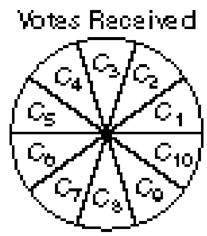


7.

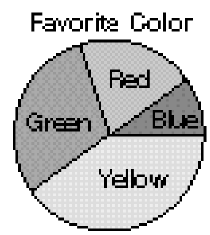


Lesson 11-2

1. C_1 means candidate 1, C_2 means candidate 2, and so on.

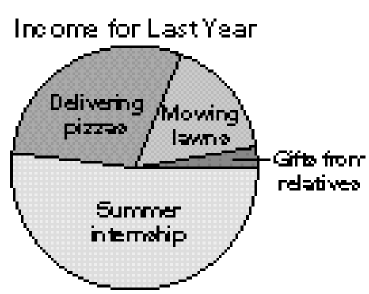


2.



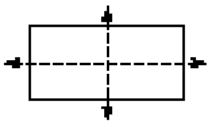
3.

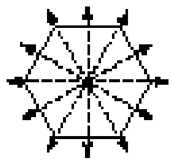
Sources of Income	Amount ($)	Percent	Angle (°)
Mowing lawns	$600	16.2	58
Delivering pizzas	$1080	29.2	105
Summer internship	$1920	51.9	187
Gifts from relatives	$100	2.7	10
Totals	$3700	100.0	360

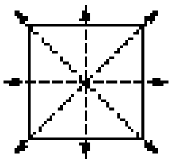


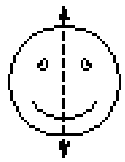
Answer Key

Lesson 11-9

5. 

6. 

7. 

8. 

Chapter 11 Review

1. 16 2. $\triangle ABC$ 3. Any 3 triangles other than $\triangle ABC$ 4. Any 3 of $\triangle AEB$, $\triangle AEC$, $\triangle CFB$, $\triangle AFB$, $\triangle ADC$, $\triangle BDC$
5. Segment AE is congruent to segment AE; segment EB is congruent to segment EC; segment AB is congruent to segment AC. 6. $m\angle A = 60°$; $m\angle AEB = 90°$; $m\angle BAE = 30°$; $m\angle FBA = 30°$; $m\angle AOB = 120°$; $m\angle FOE = 120°$; $m\angle AOF = 60°$
7. They both have angles measuring 30°, 60°, and 90°.

Chapter 12 Review

1. Container B will hold the most because it has the greatest volume.
Volume of Container A = 350 in^3
Volume of Container B ≈ 502.7 in^3
Volume of Container C = 120 in^3
Volume of Container D ≈ 261.8 in^3

2. Container C will require the least cardboard to make because it has the least surface area. (These surface area values do not include the area of the tops of the containers.)
Surface area of Container A = 275 in^2
Surface area of Container B ≈ 301.6 in^2
Surface area of Container C = 120 in^2
Surface area of Container D ≈ 175.6 in^2

3–5. Sample answers are given.
3. Container D; A cone would require only one overlapping seam and no folds, whereas a rectangular prism would require more than one seam and several folds, a pyramid would require one seam and several folds, and a cylinder would require one straight seam and a circular seam for attaching the bottom.
4. Container B; Ignoring overlapping areas, and assuming the cost of cardboard to be \$x per square inch, the cost per cubic inch for each container would be as follows. (Note: The wasted material that occurs when the containers are cut out is ignored in these calculations.)

Container A: $\dfrac{275\ in^2 \cdot \frac{\$x}{in^2}}{350\ in^3} \approx \dfrac{\$(0.79)x}{in^3}$

Container B: $\dfrac{301.6\ in^2 \cdot \frac{\$x}{in^2}}{502.7\ in^3} \approx \dfrac{\$(0.60)x}{in^3}$

Container C: $\dfrac{120\ in^2 \cdot \frac{\$x}{in^2}}{120\ in^3} \approx \dfrac{\$(1)x}{in^3}$

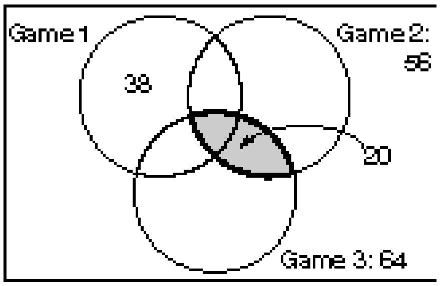
Container D: $\dfrac{175.6\ in^2 \cdot \frac{\$x}{in^2}}{261.8\ in^3} \approx \dfrac{\$(0.67)x}{in^3}$

If only the cost of materials was considered, Container B would use the least amount of material per unit of volume.
5. Container D; Container D would be easy for people to hold no matter the size of their hands, and it would be most comfortable to grip.

Answer Key

Lesson 13-2

2. Total surveyed: 180



42 people did not watch any of the games.

Chapter 13 Review

1–5. Sample answers are given.

1. Equation: $80^2 + 30^2 = c^2$
   Solution: $c = 85.44$ in.
   Actual: 85.5 in.
2. Equation: $48^2 + 36^2 = c^2$
   Solution: $c = 60$ in.
   Actual: 36.13 in.
3. Equation: $16^2 + b^2 = 19^2$
   Solution: $b = 10.25$ in.
   Actual: 12 in.
4. Equation: $74^2 + b^2 = 80^2$
   Solution: $b = 30.40$ in.
   Actual: actual diagonal was 38 in.
5. The solutions were different from the actual measurements in most cases because it was hard to get an exact measurement, especially on the TV and bed.

Chapter 14 Review

1. 8 2. $32x^{15}$ 3. $3x^9$ 4. $x + 6y$
5. $-6a + 8b - 1$ 6. $12x^2 + 15x$
7. $x^2 + 6x + 8$ 8. The student needs to supply a polynomial with a degree of 4. To find the degree of a polynomial, you must find the degree of each term. The greatest degree of any term is the degree of the polynomial. Sample answer: $x^2 + 2y^4$ has a degree of 4 because the first term has a degree of 2 and the second term has a degree of 4; since 4 is greater, the degree of the polynomial is 4. 9. The student needs to supply two polynomials that when added, have a sum of $4x + 9$. To add polynomials, you add the like terms. Sample answer: $(3x + 5) + (x + 4)$; In this sentence, $3x + x = 4x$ and $5 + 4 = 9$. 10. The student needs to supply two polynomials that when added, have a sum of $-x + 7$. To add polynomials, you add the like terms. Sample answer: $(2x + 6) + (-3x + 1)$ 11. The student needs to supply two polynomials that when subtracted, have a difference of $3x + 1$. To subtract polynomials, you subtract the like terms. Sample answer: $(6x + 5) - (3x + 4)$ 12. The student needs to supply two polynomials that when multiplied, have a product of $x^2 - 16$. Sample answer: $(x + 4)(x - 4)$