

Chapter 6, continued

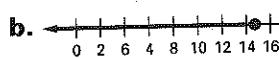
SAT/ACT Chapter Test

1. D 2. A 3. C 4. E 5. A 6. B 7. D 8. C
 9. E 10. C 11. B 12. B 13. A 14. D
 15. \$850 16. 12 17. 83 cm

Alternative Assessment

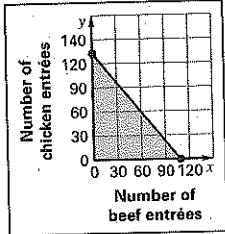
1. Complete answers should include: a discussion of the equivalent compound inequality $ax + b > 9$ or $ax + b < -9$; a discussion of how to solve each part of this compound inequality; a rough sketch of a solution consisting of two rays having open circles that point in opposite directions.

2. a. $125 + 8.5p \leq 250$; $p \leq 14\frac{12}{17}$

b. ; 14 door prizes

c. \$1256 d. $11x + 9y + 56 \leq 1256$

e.



f. Sample answer: 100 beef and 10 chicken;

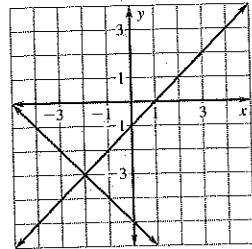
50 beef and 70 chicken; 25 beef and 100 chicken

g. For sample answer in part (f): \$10, \$20, and \$25, respectively.

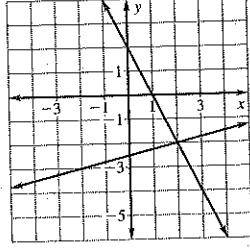
Chapter 7

Quiz 1

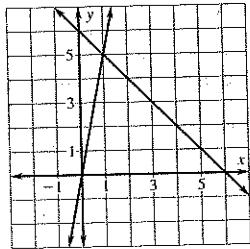
1. $(-2, -3)$



2. $(2, -2)$



3. $(1, 5)$



4. $(1, 4)$ 5. $(2, 6)$ 6. $(3, 8)$ 7. $(1, -4)$

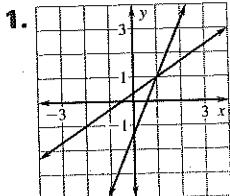
8. $(5, -1)$

Algebra 1

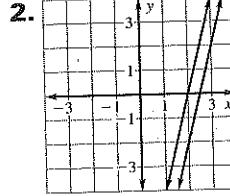
Quiz 2

1. $(1, -1)$ 2. $(2, 2)$ 3. $(2, 4)$ 4. $(-1, 2)$
 5. $(1, -2)$ 6. $(2, -3)$ 7. $(1, 4)$ 8. $(3, 1)$

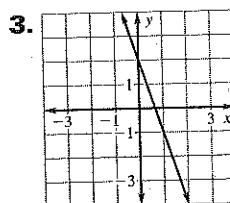
Quiz 3



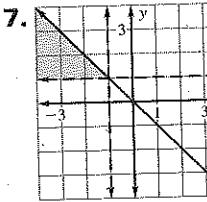
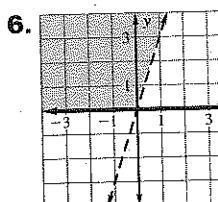
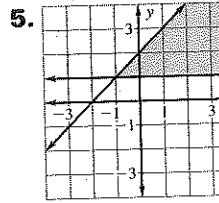
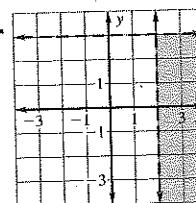
one solution



no solution



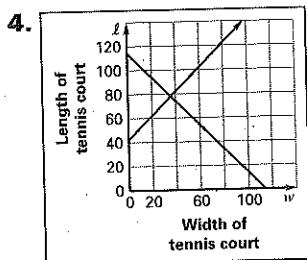
infinitely many solutions



Chapter Test A

1. $(-2, 3)$ 2. $(1, -1)$

3. $2w + 2\ell = 228$ and $\ell = w + 42$



5. 78 feet by 36 feet 6. $(2, -1)$ 7. $(4, 3)$

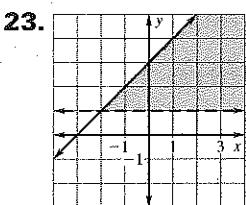
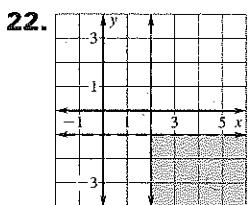
8. $(3, 2)$ 9. $(-7, -23)$ 10. $(1, 1)$ 11. $(6, 6)$

12. $x + y = 300$, $0.04x + 0.07y = 15$; 100 mL of 7% solution and 200 mL of 4% solution

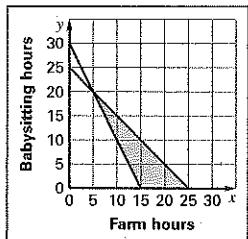
13. $(5, -1)$ 14. $(2, -7)$ 15. $(3, -2)$

Chapter 7, continued

- 16.** $(2, -1)$ **17.** $(1, 1)$ **18.** $(5, -2)$ **19.** no solution **20.** one solution **21.** infinitely many solutions



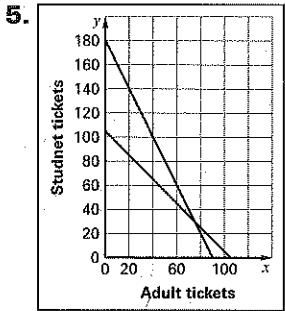
- 24.** $x \geq 0, y \geq 0, 10x + 5y \geq 150, x + y \leq 25;$



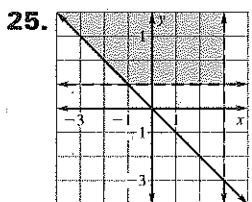
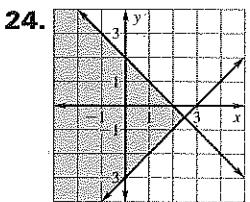
- 25.** Yes, you will earn \$160 per week.

Chapter Test B

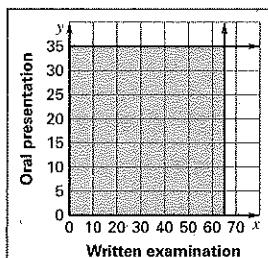
- 1.** yes **2.** no **3.** yes **4.** $x + y = 105$,
 $4x + 2y = 360$



- 6.** 75 adult tickets and 30 student tickets
7. $(-2, 1)$ **8.** $(2, -10)$ **9.** $(3, -1)$
10. $(-4, 8)$ **11.** $(5, 2)$ **12.** $(1, 1)$
13. $y = x + 30$, $26x + 15y = 3115$; \$65 for a single-occupancy room and \$95 for a double-occupancy room
14. $(2, -3)$ **15.** $(2, 0)$ **16.** $(3, 1)$ **17.** $(-1, 1)$
18. $(8, 6)$ **19.** $(-1, 2)$ **20.** no solution
21. one solution **22.** infinitely many solutions
23. There is no solution, so you cannot determine the cost of a bagel.

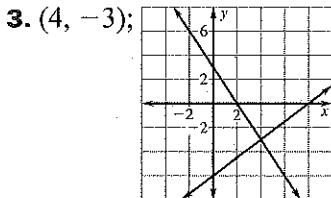
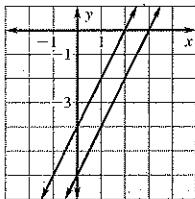
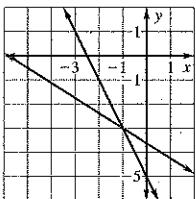


- 26.** $x \geq 0, y \geq 0, x \leq 65, y \leq 35;$

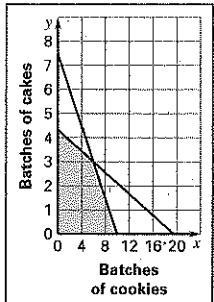


Chapter Test C

- 1.** $(-1, -3)$; **2.** no solution;

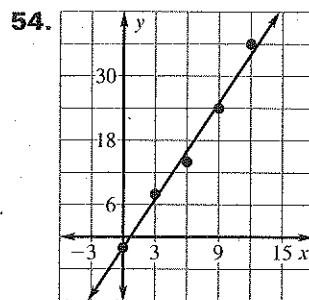


- 4.** $\left(\frac{2}{3}, -2\right)$ **5.** $(2, 1)$ **6.** $(2, 2)$ **7.** $(1, -3)$
8. no solution **9.** $(1, -4)$ **10.** 225 liters
11. $\left(\frac{2}{3}, -\frac{2}{3}\right)$ **12.** infinitely many solutions
13. $(0, -2)$ **14.** no solution **15.** $(-3, 5)$
16. $(5, 3)$ **17.** 135 miles per hour; 15 miles per hour **18.** infinitely many solutions **19.** one solution **20.** no solution **21.** $y \leq 5, y > x$
22. $y \leq 2, 3x - y \leq 3$
23. $x \geq 0, y \geq 0, 1.5x + 2y \leq 15, \frac{2}{3}x + 3y \leq 13$



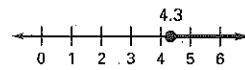
- 24.** $\left(0, 4\frac{1}{3}\right), (10, 0), (0, 0), (3, 6)$

Chapter 1–7, continued

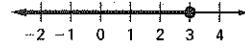


54. $y = 3x - 2$

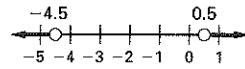
55. $x \geq 4.3$



57. $x \leq 3$

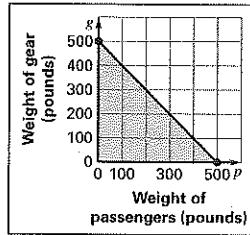


59. $x < -4.5$ or $x > 4$



61. 3, -7 62. no solution

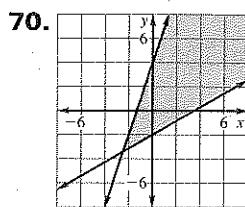
63. $p + g \leq 500$



Answers will vary.

64. $(-3, -2)$ 65. $(2, 3)$ 66. $(-1, 8)$

67. $(4, 1)$ 68. no solution 69. infinitely many solutions



Chapter 8

Quiz 1

1. 8^5
2. $(-3)^6$
3. 6^{15}
4. $(-2)^{10}$
5. $16^4 \cdot 7^4$
6. 4^9
7. 9^7
8. 2^{12}
9. x^{10}
10. $-x^{14}$
11. $3x^{13}$
12. $72x^9$
13. x^{15}
14. $\frac{x^{20}}{16}$

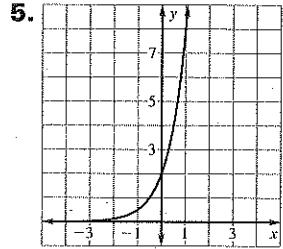
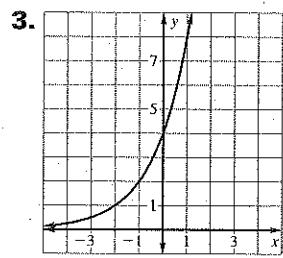
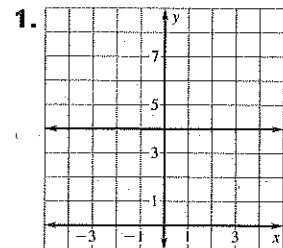
Quiz 2

1. $\frac{x^3}{8}$
2. $\frac{2}{x^5y^3}$
3. $\frac{y^6}{16x^8}$
4. $9x^2$
5. 930,000

6. 70,400 7. 0.00562 8. 0.000004209

9. 9.3×10^7

Quiz 3



7. $y = 80,000(1.05)^x$; \$107,208

Chapter Test A

1. 5^9
2. 6^4
3. 3^8
4. 7^2
5. $(-2)^7$
6. $\frac{3^6}{8^6}$
7. x^8
8. y^{20}
9. w^9
10. \$100,000
11. $\frac{1}{9}$

12. $\frac{1}{8}$

13. 5

14. $\frac{1}{p^5}$

15. $\frac{t^3}{7}$

16. 1

17. 10,000 meters

18. 5.6×10^4

19. 3.51×10^{-3}

20. 9×10^7

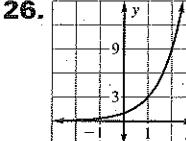
21. 3200

22. 0.0571

23. 9,300,000,000

24. 500 sec

25.	x	-2	-1	0	1	2
	y	$\frac{1}{9}$	$\frac{1}{3}$	1	3	9



26. The domain is all real numbers and the range is all positive real numbers.

Chapter 8, continued

9. E **10.** A **11.** C **12.** C **13.** D **14.** 32

15. \$249 **16.** $\frac{2}{3}$

Alternative Assessment

1. Complete answers should include: an explanation that numbers larger than 10 will have positive exponents when written in scientific notation; an explanation that numbers between 0 and 1 will have negative exponents when written in scientific notation; an example of each case in both scientific notation and standard form.

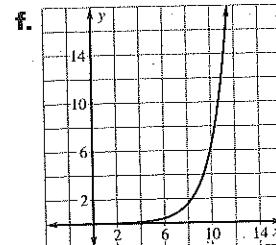
2. a. $L = 1$; A paper folded 0 times will have 1 layer.

b.	<table border="1"> <thead> <tr> <th>x</th><th>0</th><th>1</th><th>2</th><th>3</th><th>4</th></tr> </thead> <tbody> <tr> <td>L</td><td>1</td><td>2</td><td>4</td><td>8</td><td>16</td></tr> </tbody> </table>	x	0	1	2	3	4	L	1	2	4	8	16
x	0	1	2	3	4								
L	1	2	4	8	16								

c. Each additional fold results in twice as many layers. **d.** 7 folds

e.

$$T = (0.1)2^{x-4} = (0.1)\frac{2^x}{2^4} = \left(\frac{0.1}{2^4}\right)2^x = (0.00625)2^x$$



g. exponential growth **h.** 6.4 cm

Chapter 9

Quiz 1

- 1.** $-2x^2 - 14x + 7$ **2.** $-17q^2 - 3q + 4$
- 3.** $-5k^6 + 15k^5$ **4.** $y^3 + 3y^2 + y - 2$
- 5.** $4z^2 + z - 18$ **6.** $p^2 - 6p - 7$
- 7.** $64m^2 + 48m + 9$ **8.** $25y^2 - 60y + 36$
- 9.** $w^2 + 4w$

Quiz 2

- 1.** $3x(4x + y)$ **2.** $7ab(3b + 5)$ **3.** $9z^2(1 - 2z)$
- 4.** $4p(1 - 2p)$ **5.** $(w + 1)(w + 14)$
- 6.** $(m - 10)(m - 2)$ **7.** $(2k - 1)(k + 3)$
- 8.** $(3b + 1)(b - 7)$ **9.** $(2y + 5)(4y + 3)$
- 10.** $-(2d + 5)(d + 1)$ **11.** $-6, 4$ **12.** $0, \frac{1}{3}$
- 13.** $3, 4$ **14.** $-2, 0$ **15.** $2, 5$ **16.** $-3, -2$

Quiz 3

- 1.** $(x + 9)(x - 9)$ **2.** $(3z + 11)(3z - 11)$
- 3.** $(10m + 7n)(10m - 7n)$ **4.** $(h + 7)^2$
- 5.** $(8t - 1)^2$ **6.** $4(a^2 + b^2)$ **7.** $6(x + y)(x - y)$
- 8.** $5(m + 2n)(m - 2n)$ **9.** $x(x - 5)(x + 2)$
- 10.** $3(z + 5)^2$ **11.** $2k(k - 9)^2$
- 12.** $(x + y)(x + 2)$ **13.** -5 **14.** $-2, 2$
- 15.** $-7, 0, 7$ **16.** $0, 1, 5$ **17.** 6 in. long by 2 in. wide by 8 in. high

Chapter Test A

- 1.** $10a^3 + a^2$ **2.** $3y^2 - 4y - 2$
- 3.** $-2x^2 + 7x - 8$ **4.** $3h^2 - 3h + 17$
- 5.** $T = -17.63t^2 + 3147.34t + 29,544$
- 6.** $$47,254.40$ **7.** $2n^4 - 3n^2 + 2n$
- 8.** $8w^2 - 26w + 21$ **9.** $d^3 + 4d^2 + 5d + 2$
- 10.** $p^2 - 9$ **11.** $t^2 - 8t + 16$ **12.** $4s^2 - 25$
- 13.** 25% **14.** $0.25B^2 + 0.5Bb + 0.25b^2$
- 15.** $-7, 4$ **16.** $-5, \frac{1}{4}$ **17.** $4c^5(c^3 - 2)$
- 18.** $6f^2g^2(g + 2)$ **19.** $2k(k^2 + 6k - 7)$ **20.** 0, 3
- 21.** $0, \frac{3}{7}$ **22.** $h = -16t^2 + 20t$ **23.** 1.25 seconds
- 24.** $(x + 7)(x + 2)$ **25.** $(y - 4)(y + 3)$
- 26.** $(3m + 2)(m + 6)$ **27.** 3 cm by 20 cm
- 28.** $3x(x + 2)(x + 3)$ **29.** $2(s + 3)(s - 3)$
- 30.** $(r + 7)(r + 3)$ **31.** $0, -2, 5$ **32.** $-7, 4$
- 33.** 8 ft by 10 ft

Chapter Test B

- 1.** $3a^3 - 2$ **2.** $3x^3 - 4x^2 + 4x + 35$
- 3.** $-13d^3 + 2d^2 - 3d + 1$
- 4.** $4n^3 - 2n^2 + 4n + 12$
- 5.** $D = -18.53t^2 - 895t + 40,091$
- 6.** 14,779,000 students **7.** $36c^3 - 20c^2 - 32c$
- 8.** $5y^2 + 17y - 12$ **9.** $5s^3 + 32s^2 - 13s - 10$
- 10.** $16p^2 - 1$ **11.** $w^2 - 10w + 25$
- 12.** $4b^2 + 12b + 9$
- 13.** $V = 2(x - 4)(x + 4) = 2x^2 - 32$
- 14.** 40 in.³ **15.** $-\frac{1}{2}, 7$ **16.** 0, 8 **17.** $-2, 0$
- 18.** $3w(w - 2) = w(w + 1)$ **19.** $\frac{7}{2}$
- 20.** $(n - 18)(n + 4)$ **21.** $-(x - 9)(x - 5)$