

Practice 9-5**HW Solutions
(1-30)**

1. $(x + 4)(x + 4)$
2. $(d + 7)(d + 1)$
3. $(y + 4)(y + 2)$
4. $(b - 3)(b + 1)$
5. $(s - 5)(s + 1)$
6. $(x + 8)(x + 4)$
7. $(x - 4)(x - 5)$
8. $(x - 2)(x - 3)$
9. $(a + 2)(a + 1)$
10. $(p - 7)(p - 1)$
11. $(d + 1)(d + 5)$
12. $(n + 3)(n - 2)$
13. $(x + 7)(x - 2)$
14. $(b + 7)(b + 2)$
15. $(x + 9)(x + 5)$
16. $(a + 3)(a + 4)$
17. $(x + 2)(x + 11)$
18. $(x + 4)(x - 1)$
19. $(x - 6)(x - 2)$
20. $(x + 9)(x - 2)$
21. $(n - 5)(n - 2)$
22. $(s - 7)(s + 2)$
23. $(x - 8)(x - 1)$
24. $(x - 6)(x + 4)$
25. $(x - 9)(x + 3)$
26. $(x - 18)(x + 2)$
27. $(x + 5)(x + 2)$
28. $(x - 7)(x + 4)$
29. $(m - 7)(m + 3)$
30. $(x + 3)(x - 5)$

Jan 23-8:53 AM

9.8 (2-14 even)

1. $(x - 2)(a + 2)$
2. $(3 + a)(x + y)$
3. $(m + k)(x - 3)$
4. $(a - b)(y + 1)$
5. $(x + 2y)(x + 3)$
6. $(y + 4)(y - 5w)$
7. $(y - 2)(x + 4)$
8. $(b - 3)(a + 7)$
9. $(a + b)(x + y)$
10. $(a + b)(x - y)$
11. $(x - 3y)(2x + 5)$
12. $(x - 2y)(3x + 2)$
13. $(2x + b)(a + 3c)$
14. $(x^2 - 2)(y - 3)$
15. $(2 + x^2)(3 + y)$

(37-42)

36. $(x^2 + 3)(5x - 1)$
37. $(x + 3)(x^2 + 4)$
38. $(2x + 1)(3x^2 + 1)$
39. $(x + 3)(3x^2 + 2)$
40. $(3x - 4)(3x^2 + 1)$
41. $(2x - 5)(5x^2 + 2)$
42. $(x - 5)(4x^2 + 3)$
43. $3x(6x - 7)(8x - 5)$

Jan 23-8:55 AM

Practice 9-7 (1-30)

1. $(x - 3)(x + 3)$ 2. $(2m - 1)(2m + 1)$ 3. $(a + 1)^2$
 4. $(2x + 3)^2$ 5. $(x - 11)^2$ 6. $(n - 2)(n + 2)$
 7. $(3x - 2)(3x + 2)$ 8. $(4c - 7)(4c + 7)$
 9. $(3x - 5)^2$ 10. $(2x - 5)^2$ 11. $2(a - 3)(a + 3)$
 12. $(x - 12)^2$ 13. $3(n - 1)(n + 1)$ 14. $(3h + 10)^2$
 15. $(3d - 7)(3d + 7)$ 16. $(9a - 20)(9a + 20)$
 17. $(r - 6)(r + 6)$ 18. $3(a - 4)(a + 4)$ 19. $(b + 2)^2$
 20. $10(x - 3)(x + 3)$ 21. $(5x - 8)(5x + 8)$
 22. $3(2w - 3)(2w + 3)$ 23. $g(g - 5)(g + 5)$
 24. $(x + 3)^2$ 25. $(a - 5)(a + 5)$ 26. $9(2s - 5)(2s + 5)$
 27. $(2b + 11)^2$ 28. $(x - 8)^2$ 29. $(x - 1)^2$ 30. $(d - 7)(d + 7)$

Jan 23-8:58 AM

Practice 9-6 (left to 34)

1. $(x + 1)(2x + 1)$ 2. $(x + 1)(2x + 3)$
 3. $(n + 2)(2n - 3)$ 4. $(x + 1)(3x - 4)$
 5. $(2y + 1)(y - 5)$ 6. $(x + 1)(5x - 7)$
 7. $(n + 1)(7n + 2)$ 8. $(c - 6)(3c + 1)$
 9. $(x + 2)(3x + 2)$ 10. $(x - 2)(6x + 5)$
 11. $(x - 2)(3x - 4)$ 12. $(y - 6)(3y + 2)$
 13. $(x + 1)(5x - 3)$ 14. $(x + 2)(3x + 1)$
 15. $(x - 1)(7x - 3)$ 16. $(x + 1)(3x + 5)$
 17. $(x + 4)(2x + 1)$ 18. $(x - 1)(5x - 2)$
 19. $(x - 4)(5x - 2)$ 20. $(x + 5)(4x - 3)$
 21. $(x - 7)(5x + 2)$ 22. $(x - 2)(3x + 4)$
 23. $(y + 3)(3y - 2)$ 24. $(x + 8)(2x - 3)$
 25. $(y - 3)(4y + 1)$ 26. $(y + 1)(2y + 7)$
 27. $(y - 1)(5y + 2)$ 28. $(y + 2)(7y + 5)$
 29. $(x - 4)(7x - 2)$ 30. $(x + 5)(3x + 2)$
 31. $(2x - 1)(x + 3)$ 32. $(2x - 3)(x - 1)$
 33. $(3x + 1)(x + 3)$ 34. $(2x - 7)(x + 3)$

Jan 24-12:13 PM

Practice 11-1 (3-60 mult. of 3)

1. $4\sqrt{2}$ 2. $4\sqrt{11}$ 3. $7\sqrt{3}$ 4. $\frac{\sqrt{17}}{12}$ 5. $ab^2\sqrt{b}$ 6. $\frac{\sqrt{6}}{3}$
 7. $4\sqrt{5}$ 8. $3\sqrt{3}$ 9. $2\sqrt{2}$ 10. $\frac{8\sqrt{7}}{7}$ 11. $2x^2\sqrt{3}$ 12. $2\sqrt{2}$
 13. $10\sqrt{2}$ 14. $\frac{2\sqrt{3}}{15}$ 15. $3\sqrt{10}$ 16. $2\sqrt{30}$ 17. $\frac{2\sqrt{2a}}{a}$
 18. $54\sqrt{2}$ 19. $5\sqrt{10}$ 20. $\sqrt{5}$ 21. $2\sqrt{21}$ 22. $\frac{\sqrt{2}}{5}$
 23. $4s\sqrt{3s}$ 24. $6\sqrt{6}$ 25. $5\sqrt{21}$ 26. $4\sqrt{10}$ 27. $2\sqrt{3}$
 28. $2n\sqrt{2n}$ 29. $2\sqrt{34}$ 30. $\frac{3x\sqrt{3}}{16}$ 31. $mn\sqrt{m}$ 32. $2\sqrt{5}$
 33. 12 34. 300 35. $\frac{\sqrt{17}}{8}$ 36. $5\sqrt{2}$ 37. $4\sqrt{3}$ 38. $2\sqrt{5}$
 39. $2\sqrt{2}$ 40. $5x$ 41. $\frac{\sqrt{7}}{3}$ 42. $\frac{\sqrt{17}}{8}$ 43. $\sqrt{6}$ 44. $2\sqrt{3}$
 45. $\frac{5\sqrt{2}}{2}$ 46. $5\sqrt{3}$ 47. $10\sqrt{3}$ 48. $7a\sqrt{a}$ 49. $5\sqrt{5}$
 50. $2x^2\sqrt{7}$ 51. $\frac{7\sqrt{3}}{3}$ 52. $\frac{\sqrt{15}}{7}$ 53. $\sqrt{5}$ 54. $\sqrt{3}$
 55. $\sqrt{2}$ 56. $6x\sqrt{2x}$ 57. $5y\sqrt{2y}$ 58. $3xy\sqrt{5y}$
 59. $\frac{2x\sqrt{11}}{3}$ 60. $\frac{2\sqrt{3x}}{3x}$ 61. $12\sqrt{5}$ 62. $b\sqrt{ab}$

Jan 24-12:22 PM

Practice 5-6

1. $2i, -4 + 2i, 12 - 14i$ 2. $1 + i, 1 + 3i, -7 + 7i$
 3. $-2 - 3i$ 4. $4 - i$ 5. $-2i$ 6. $1 + i$ 7. $6i$ 8. $-5 + 2i$
 9. $2 - 3i$ 10. -4 11. 2 12. 13 13. $\sqrt{2}$ 14. $\sqrt{5}$ 15. 5
 16. $\sqrt{29}$ 17. $\sqrt{13}$ 18. $\sqrt{5}$ 19. $3\sqrt{2}$ 20. 3 21. 2
 22. $\sqrt{17}$ 23. $3\sqrt{5}$ 24. $\sqrt{10}$ 25. 4 26. $2\sqrt{10}$
 27. $2i\sqrt{22}$ 28. $-6i$ 29. 2 30. 0 31. $4 - 5i$ 32. $-5 - 3i$
 33. 26 34. $21 + 27i$ 35. $18 - 46i$ 36. $-7 + 24i$
 37. 13 38. 8 39. $-9 + 7i$ 40. $-1 + 6i$ 41. $4i\sqrt{3}$
 42. $10i\sqrt{3}$ 43. $5i\sqrt{3}$ 44. $2 + 4i$ 45. $15 - 8i$
 46. $18 - 26i$ 47. $22 - 4i$ 48. $2 - 16i$ 49. 265
 50. $-2 + 8i$ 51. $-5 + 16i$ 52. 169 53. $11 - 2i$
 54. $10 - 10i$ 55. $-144 - 130i$ 56. $2i\sqrt{11}$ 57. $-3i\sqrt{7}$
 58. $2i\sqrt{2}$ 59. $-7 + 22i$ 60. $6 + 6i$ 61. $3 - 4i$

Jan 24-12:33 PM

9.1 (33-57 mult. of 3)

32. $2d^3 - 4d^2 - 6d + 5$ 33. $x^3 + 8x^2$ 34. $3c^2 - 3c - 3$
 35. $4y^2 - 11y$ 36. $2c^2 - 3$ 37. $16x^2 + 14x + 15$
 38. $-15x^2 - 6x + 3$ 39. $3x^2 + 7x + 16$
 40. $7x^3 - 11x^2 - x + 3$ 41. $y^3 - 5y^2 + y - 2$
 42. $-x^3 - 7x^2 - 8x + 5$ 43. $2x^2 - x + 2$
 44. $-2x^2 - 8x + 1$ 45. $-2x^3 + 11x^2 + x - 5$
 46. $a^3 + 5a^2 + 3a$ 47. $4x + 1$ 48. $3n + 4$
 49. $x^3 - x^2 + 7x - 6$ 50. $6s^2 + 7s + 4$
 51. $5x^2 - 6x + 14$ 52. $5x^3 - x^2 - 3x + 13$ 53. -6
 54. $x^3 - 2x^2 + x + 3$ 55. $4x^2 + 20$
 56. $x^3 - 8x^2 - x + 12$ 57. $2x + 9$ 58. $2x^2 - 3x + 8$

Jan 24-12:39 PM

Practice 10-4 (1-6, 46-53)

1. ± 4 2. ± 12 3. ± 3 4. $\pm 4i$ 5. $\pm 2\sqrt{3}$ 6. ± 7

44. ± 2 45. $\pm i$ 46. $\pm\sqrt{5}$ 47. $\pm\sqrt{3}$ 48. ± 15

49. $\pm \frac{\sqrt{5}}{2}$ 50. ± 12 51. $\pm\sqrt{3}$ 52. 90 ft 53. 6 in.

Jan 24-12:42 PM

Practice 10.5 (31-52)

- 31.** 14 in., 13 in. **32.** 14 in., 9 in. **33.** 10 in. by 19 in. **34.** 1.5 s
35. -8, 9 **36.** -1, 10 **37.** -21, 21 **38.** 12, 2.6 **39.** -2.5, 13
40. 7, -13 **41.** -12, 6 **42.** -3.5, 1.5 **43.** 2.5, 1.6 **44.** -12, 8
45. -1.5, 8 **46.** 10, -15 **47.** $\frac{1}{3}$, -3 **48.** $\frac{1}{6}$, $-\frac{21}{5}$ **49.** -9, 9
50. -17, -18 **51.** 11, -11 **52.** 9, 12

Jan 24-12:46 PM

Practice 10-7

- 1.** -7.32, -0.68 **2.** -6, 6 **3.** -8, 12 **4.** -11, 14 **5.** -3.5, 6.5
6. -6, 4.2 **7.** 32.87, 2.13 **8.** 13, -19 **9.** -14.72, 2.72
10. 4.5, -4.5 **11.** -10, -3 **12.** -11, 12 **13.** 0.33, 3.5
18. No real solutions
26. No real solutions

Jan 24-12:46 PM

Practice 10.8 (1-27 all of left column)

1. 0 2. 2 3. 1 4. 2 5. 0 6. 0 7. 1 8. 2 9. 2 10. 0
 11. 2 12. 1 13. 0 14. 2 15. 2 16. 1 17. 0 18. 1 19. 2
 20. 2 21. 2 22. 2 23. 2 24. 0 25. no 26. yes 27a. yes
 27b. no 28. no 29. 2 30. 0 31. 2 32. 2 33. 2 34. 0
 35. 2 36. 1 37. 0 38. 0 39. 1 40. 2

Jan 24-12:49 PM

Practice 10-6 (Left col every other odd)

1. 49 2. $\frac{1}{81}$ 3. $\frac{4}{81}$ 4. $\frac{1}{36}$ 5. 5, -1 6. -1, 2 7. -1.36, 7.36
 8. -2 9. 6, -3 10. -0.47, 8.47 11. 6, 0 12. -1.12, 7.12
 13. 0, 7 14. 2, -6 15. -10, -1 16. -5, 3 17. 9, -1
 18. -2, -3 19. -10, 12 20. 15, 7 21. 3, $-\frac{3}{2}$ 22. -5, 1
 23. 2, $-\frac{1}{2}$ 24. -8, 2 25. $\frac{1}{3}$, -6 26. $-\frac{7}{2}$, 4 27. 1, $\frac{1}{3}$
 28. 3, $-\frac{1}{2}$ 29. $\frac{7}{3}$, -2 30. 5, 3 31. $\frac{3}{2}$, -2 32. $\frac{1}{3}$, -1
 33. $-\frac{4}{5}$, $\frac{1}{2}$ 34. $\frac{5}{3}$, $\frac{3}{4}$

Jan 24-12:50 PM

Practice 5-7

1. 9 2. $\frac{49}{4}$ 3. 36 4. $\frac{9}{4}$ 5. 16 6. 64 7. $\frac{441}{4}$ 8. 1 **(9-23 odd)**

9. $y = (x + 2)^2 - 10$; $(-2, -10)$

10. $y = (x - 3)^2 - 3$; $(3, -3)$

11. $y = 4(x + 1)^2 - 8$; $(-1, -8)$

12. $y = 4\left(x + \frac{1}{2}\right)^2$; $\left(-\frac{1}{2}, 0\right)$

13. $y = 2(x + 1)^2 - 7$; $(-1, -7)$

14. $y = -3\left(x + \frac{2}{3}\right)^2 + \frac{1}{3}$; $\left(-\frac{2}{3}, \frac{1}{3}\right)$

15. $y = -3\left(x - \frac{1}{2}\right)^2 - \frac{1}{4}$; $\left(\frac{1}{2}, -\frac{1}{4}\right)$

16. $y = (x + 1)^2$; $(-1, 0)$

17. $y = -5(x - 1)^2 + 6$; $(1, 6)$

18. $y = -2(x - 1)^2 + 5$; $(1, 5)$

19. $y = \left(x + \frac{5}{2}\right)^2 - 5$; $\left(-\frac{5}{2}, -5\right)$

20. $y = -2\left(x - \frac{5}{2}\right)^2 + \frac{3}{2}$; $\left(\frac{5}{2}, \frac{3}{2}\right)$

21. $y = 6(x - 1)^2 - 5$; $(1, -5)$

22. $y = -2(x - 2)^2 - 1$; $(2, -1)$

23. $y = 3\left(x + \frac{3}{2}\right)^2 - \frac{3}{4}$; $\left(-\frac{3}{2}, -\frac{3}{4}\right)$

Jan 24-12:51 PM

Practice 10.1 (left column 1-28 - continued on next slide)

Practice 10-1

1. $(0,0)$; maximum 2. $(0,0)$; maximum 3. $(0,0)$; minimum 4.

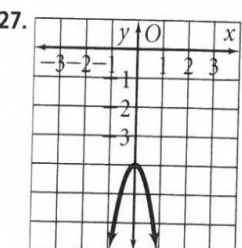
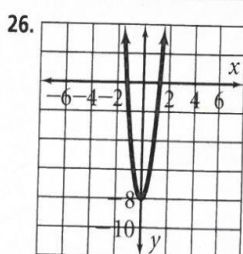
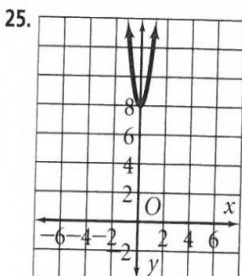
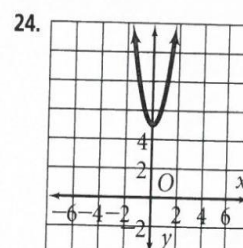
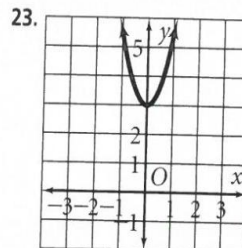
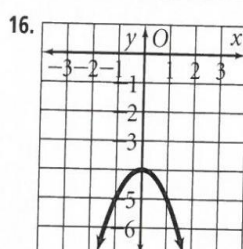
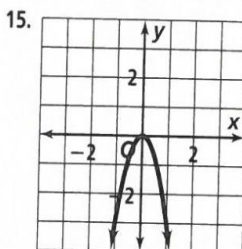
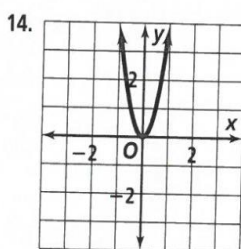
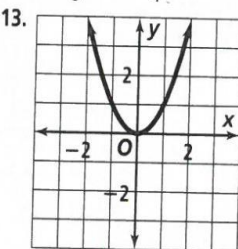
$(0,0)$; minimum 5. $(0,0)$; maximum 6. $(0,0)$; minimum

7. $y = x^2$, $y = 3x^2$, $y = 5x^2$ 8. $y = \frac{1}{2}x^2$, $y = -x^2$, $y = -8x^2$

9. $y = 2x^2$, $y = -4x^2$, $y = 5x^2$ 10. $y = \frac{1}{3}x^2$, $y = -\frac{1}{2}x^2$,

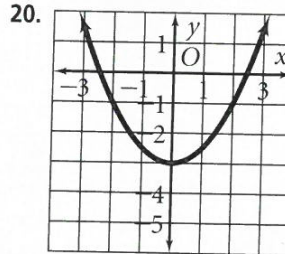
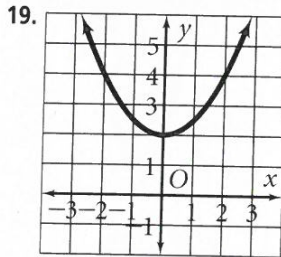
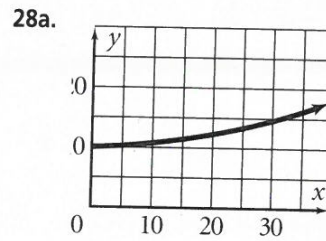
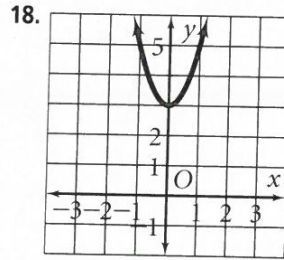
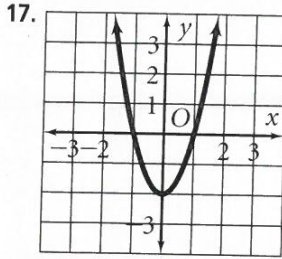
$y = -3x^2$ 11. $y = 4x^2$, $y = 6x^2$, $y = -7x^2$

12. $y = \frac{1}{5}x^2$, $y = \frac{3}{4}x^2$, $y = 2x^2$

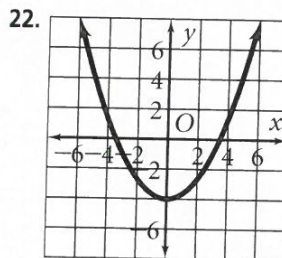
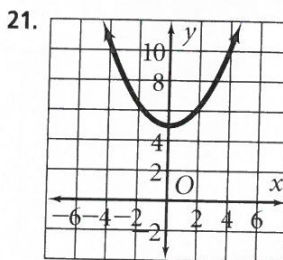
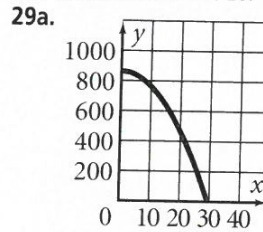


Feb 10-2:57 PM

Practice 10.1 (left column 1-28 - continued from last side)



28b. Answers may vary. Sample: Domain should be nonnegative values. Months cannot be negative. 28c. Answers may vary. Sample: Range should be greater than or equal to 10. The minimum value is 10.



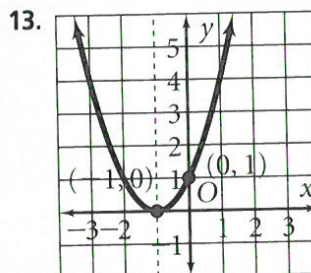
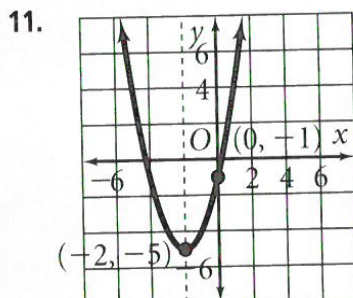
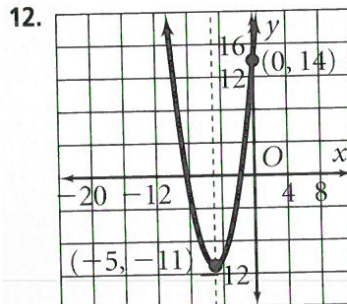
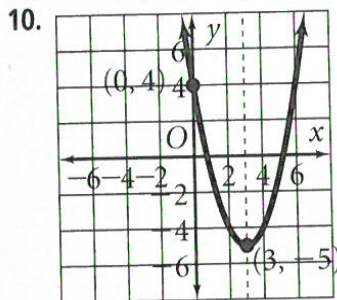
29b. Answers may vary. Sample: Domain should be nonnegative values less than or equal to 24. Length of the photograph cannot be negative and cannot be greater than 24. 29c. Answers may vary. Sample: Range should be between 288 and 864. These are the minimum and maximum areas available for printing.

Feb 10-3:04 PM

Practice 10.2 (left column 1-19 - continues on next slide)

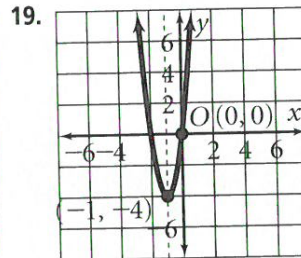
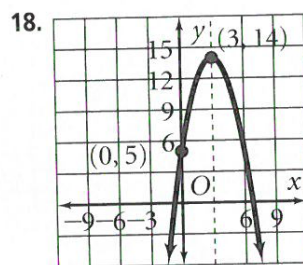
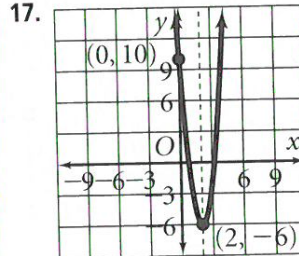
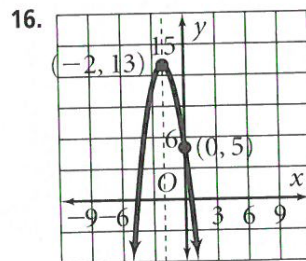
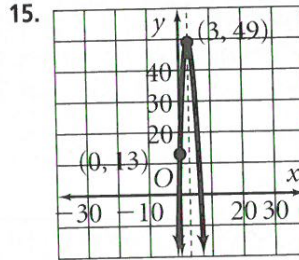
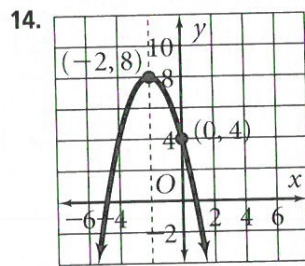
Practice 10-2

1. $x = 5; (5, -23)$ 2. $x = -6; (-6, -45)$ 3. $x = 1; (1, 2)$
 4. $x = -3; (-3, -18)$ 5. $x = 0; (0, 3)$ 6. $x = 2; (2, 16)$
 7. $x = -4; (-4, -10)$ 8. $x = 3; (3, 42)$ 9. $x = 2; (2, 6)$



Feb 10-3:08 PM

Practice 10.2 (left column 1-19 - continued from last slide)



Feb 10-3:10 PM

Page 577

EXERCISES

Solve each quadratic system.

1. $\begin{cases} x^2 + 64y^2 = 64 \\ x^2 + y^2 = 64 \end{cases}$
 (-8, 0), (8, 0)

2. $\begin{cases} 2x^2 - y^2 = 2 \\ x^2 + y^2 = 25 \end{cases}$
 (3, 4), (-3, 4), (3, -4), (-3, -4)

3. $\left(\pm \frac{21 + \sqrt{41}}{10}, \frac{9 - 21\sqrt{41}}{50} \right), \left(\pm \frac{21 - \sqrt{41}}{10}, \frac{9 + 21\sqrt{41}}{50} \right)$
 or about $(\pm 2.74, -2.51), (\pm 1.46, 2.87)$

4. $\begin{cases} 4x^2 + 4y^2 = 100 \\ 3x^2 + 3y^2 = 27 \end{cases}$
 no solutions

5. a. **Writing** The system that consists of $y = -3x + 6$ and $y = x^2 - 4x$ is a linear-quadratic system. How would you solve the system algebraically? Graphically? **See margin.**

b. Solve the system in part (a). (-2, 12), (3, -3)

6. linear-quadratic;
 (-3, -4), (4, 3)

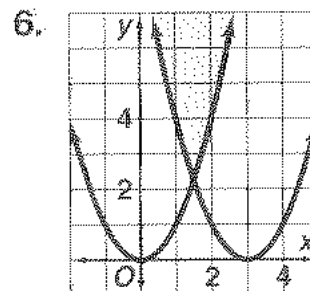
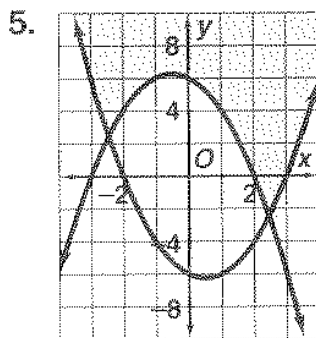
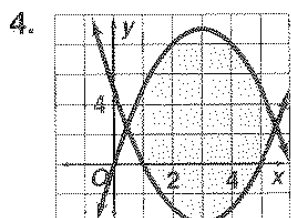
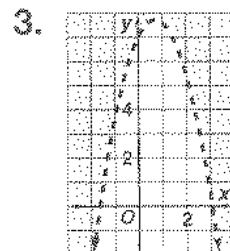
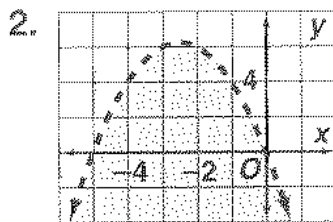
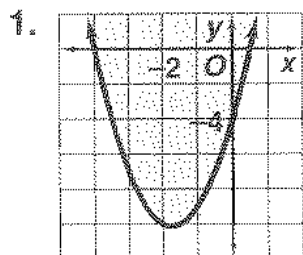
8. linear-quadratic;
 $\left(\frac{5 + \sqrt{33}}{2}, \frac{13 + \sqrt{33}}{2} \right),$
 $\left(\frac{5 - \sqrt{33}}{2}, \frac{13 - \sqrt{33}}{2} \right)$

9. linear-quadratic; (0, 2),
 $\left(-\frac{100}{29}, -\frac{42}{29} \right)$

7. quadratic-quadratic;
 ($\pm 2, 0$)

Feb 10-3:42 PM

Page 269



Feb 10-3:50 PM