

Geometry Summer Homework

There are 6 "Chapters" of work that need to be completed before the first day of class. The ODD numbers are REQUIRED. If you do even numbers as well, you will receive extra credit. Each "chapter" covers topics that you need to be familiar with before the beginning of Geometry. They are a review of the topics from Algebra 1.

You MUST show your work. You will need to do the work on a SEPARATE sheet of paper. DO NOT try to squeeze your answers onto the worksheets. Put the chapter number on the top of the notebook paper and the problem number next to the problem.

I will collect the worksheets and the notebook paper on the first day of class.

If you are having trouble with any of the worksheets, you can do a search to find instructions or a review of how to solve. For example, if you are having trouble remembering how to solve absolute value equations, do a search for "how to solve absolute value equations" and you will find Youtube video explanations.

I have included the answers so that you can check your work and verify that you know how to solve the problems correctly. This is why you MUST show your work to get credit. I have given you the answers, so just giving me the answers back makes no sense.

I look forward to seeing you in class in September! Enjoy your summer!

(You may use a calculator.)

Chapter 3

Solve the equation. Check your solution.

3.1 1. $x + 4 = 20$

2. $8 = m - 13$

3. $t + 2 = -10$

4. $z - 8 = -7$

5. $7h = 63$

6. $-4t = -44$

7. $\frac{b}{4} = 13$

8. $\frac{y}{-3} = 8$

3.2 9. $4x + 3 = 27$

10. $6m - 4 = 14$

11. $50 = 7y - 6$

12. $\frac{t}{4} - 3 = 9$

13. $\frac{x}{7} + 3 = -2$

14. $6p - 2p = 28$

3.3 15. $6x + 3x + 8 = 35$

16. $12w - 5 - 3w = 40$

17. $4d - 3 - 2d = -15$

18. $7m + 3(m + 2) = -24$

19. $5x - 3(x - 5) = 13$

20. $\frac{3}{4}(2y - 8) = 6$

3.4 21. $8x - 4 = 3x + 6$

22. $10 - 2x = 3x - 20$

23. $5 - 5x = 14 - 8x$

24. $3(2y - 5) = 4y - 7$

25. $9 + 4y = 2(3 - y)$

26. $3x - 3 = \frac{3}{4}(2x + 12)$

3.5 Solve the proportion. Check your solution.

27. $\frac{7}{2} = \frac{x}{16}$

28. $\frac{m}{9} = \frac{6}{27}$

29. $\frac{z}{4} = \frac{48}{12}$

30. $\frac{30}{50} = \frac{t}{10}$

3.5 Write the sentence as a proportion. Then solve the proportion.

31. 5 is to 7 as 15 is to x .

32. 9 is to 3 as x is to 12.

33. g is to 9 as 16 is to 12.

34. 6 is to 18 as y is to 3.

3.6 Solve the proportion. Check your solution.

35. $\frac{12}{x} = \frac{6}{7}$

36. $\frac{6x}{4} = \frac{18}{12}$

37. $\frac{7}{x+13} = \frac{4}{12}$

38. $\frac{y+5}{y} = \frac{10}{8}$

39. $\frac{2x+6}{x} = \frac{7}{2}$

40. $\frac{3b}{5b-7} = \frac{8}{11}$

41. $\frac{8}{2x+12} = \frac{6}{x+8}$

42. $\frac{4.8-2x}{8} = \frac{0.4+x}{10}$

3.7 Use a proportion to answer the question.

Chapter 5

5.1 Write an equation of the line with the given slope and y -intercept.

1. slope: 3
 y -intercept: 6

2. slope: -2
 y -intercept: 4

3. slope: 5
 y -intercept: -1

4. slope: -1
 y -intercept: -3

5. slope: $\frac{1}{2}$
 y -intercept: -5

6. slope: $-\frac{7}{10}$
 y -intercept: 8

5.2 Write an equation of the line that passes through the given point and has the given slope m .

7. $(3, 8)$; $m = 2$

8. $(-1, 5)$; $m = -4$

9. $(-6, 3)$; $m = \frac{2}{3}$

5.2 Write an equation of the line that passes through the given points.

10. $(2, 4)$, $(5, 13)$

11. $(1, -2)$, $(-2, 13)$

12. $(2, \frac{1}{3})$, $(6, 3)$

5.3 Graph the equation.

13. $y - 3 = -3(x + 4)$

14. $y + 5 = -2(x - 1)$

15. $y - 6 = \frac{2}{3}(x - 3)$

5.3 Write an equation in point-slope form of the line that passes through the given points.

16. $(-4, 2)$, $(-2, 16)$

17. $(3, 9)$, $(-7, 4)$

18. $(10, -2)$, $(12, -6)$

5.4 Write an equation in standard form of the line that passes through the given point and has the given slope m or that passes through the two given points.

19. $(2, 7)$, $m = -4$

20. $(5, 11)$, $m = 3$

21. $(1, -2)$, $(-2, 4)$

5.5 Write an equation of the line that passes through the given point and is parallel to the given line.

22. $(5, 4)$, $y = 3x + 5$

23. $(-3, -7)$, $y = -5x - 2$

24. $(8, -3)$, $y = \frac{3}{4}x + 5$

5.5 Write an equation of the line that passes through the given point and is perpendicular to the given line.

25. $(-12, -2)$, $y = 3x + 2$

26. $(15, -11)$, $y = \frac{3}{5}x - 8$

27. $(7, -6)$, $4x + 6y = 7$

Chapter 6

Solve the inequality. Graph your solution.

- 6.1**
- | | | | |
|------------------------------|---------------------------------------|--------------------------------------|---|
| 1. $y - 2 > 3$ | 2. $5 + x \leq 2$ | 3. $4 \geq x - 3$ | 4. $m + 3 < 2$ |
| 5. $2 + n \leq 4\frac{1}{2}$ | 6. $2\frac{3}{4} + n < -3\frac{5}{8}$ | 7. $1\frac{7}{8} > 6\frac{3}{4} + z$ | 8. $3\frac{2}{5} \geq 1\frac{1}{3} + k$ |
| 9. $-8.5 \leq t - 10$ | 10. $r + 4 < -0.7$ | 11. $-6.9 > -1.4 + y$ | 12. $1.48 - m \geq -3.13$ |
- 6.2**
- | | | | |
|---------------------|---------------------------|---------------------------|------------------------|
| 13. $3p \leq 27$ | 14. $-13t > 26$ | 15. $\frac{x}{3} \geq 2$ | 16. $\frac{y}{-2} < 5$ |
| 17. $-6m \geq -9$ | 18. $-3 \geq \frac{n}{2}$ | 19. $0.3z \leq 2.4$ | 20. $25 > -2.5s$ |
| 21. $4.8z \leq 3.2$ | 22. $0.09d < -1.8$ | 23. $\frac{y}{0.3} > -15$ | 24. $-1.8t < 9$ |

6.3 Solve the inequality, if possible. Graph your solution.

- | | | |
|-----------------------------------|----------------------------------|---|
| 25. $3x + 5 \geq 20$ | 26. $6z - 5 < 13$ | 27. $8(t + 4) > -8$ |
| 28. $7 - 8n \leq 4n - 17$ | 29. $8(m + 2) < 4(5 + 2m)$ | 30. $6d - 4 - 3d \geq 14$ |
| 31. $\frac{2}{3}y + 28 > 20 + 2y$ | 32. $6(-5 + 3p) \geq 3(6p - 10)$ | 33. $\frac{5}{6}(12z - 24) > \frac{2}{5}(25z - 25)$ |

6.4 Solve the inequality. Graph your solution.

- | | | |
|---|--|--|
| 34. $2 \leq y - 4 < 7$ | 35. $-27 < 9x < 27$ | 36. $2 < 6z - 10 < 20$ |
| 37. $15 < \frac{5}{9}(18a - 9) \leq 30$ | 38. $2v > 12$ or $v + 2 < 6$ | 39. $3r + 7 < -5$ or $32 \leq 7r + 46$ |
| 40. $-4m < 8$ or $2m - 2 < -12$ | 41. $9t - 20 \geq 4t$ or $4 < \frac{1}{-2}t$ | 42. $-n - 1 > 1$ or $2n + 8 > n + 8$ |

6.5 Solve the equation, if possible.

- | | | | |
|----------------------|----------------------|------------------------|---|
| 43. $ x = 8$ | 44. $ y = -10$ | 45. $ m + 6 = 5$ | 46. $ 4z - 2 = 14$ |
| 47. $ t - 7 = 21$ | 48. $6 z - 4 = 36$ | 49. $4 6s + 11 = -52$ | 50. $ r + 3 - 16 = -4$ |
| 51. $ 5r + 10 = 15$ | 52. $2 3s + 4 = 14$ | 53. $-4 7v + 2 = 32$ | 54. $12\left \frac{5}{6}w - 4\right - 4 = 8$ |

6.6 Solve the inequality. Graph your solution.

- | | | | |
|------------------------|---------------------------|-----------------------------|---|
| 55. $ x \leq 3$ | 56. $ y \geq 5$ | 57. $ s > 1.2$ | 58. $ q < \frac{2}{5}$ |
| 59. $ x + 2 > 6$ | 60. $ y + 3 \leq 5$ | 61. $ 8 - m < 3$ | 62. $ 4n - 1 \geq 7$ |
| 63. $3 p - 3 \leq 12$ | 64. $ 3q + 2 - 3 \geq 8$ | 65. $2 5a - 1 + 3 \leq 11$ | 66. $4\left \frac{2}{3}c + 2\right < 64$ |

Chapter 7

7.1 Solve the linear system by graphing. Check your solution.

1. $y = x - 1$
 $y = -x + 5$

2. $y = 3x + 12$
 $y = -4x - 2$

3. $x - y = 4$
 $x + y = -2$

4. $4x - y = 10$
 $x = 4$

5. $3x - 2y = -5$
 $4x + 3y = -18$

6. $\frac{2}{3}x + \frac{1}{3}y = \frac{16}{3}$
 $-\frac{2}{5}x + y = \frac{8}{5}$

7.2 Solve the linear system using substitution.

7. $y = 2x + 6$
 $x = y - 3$

8. $y = 3x + 5$
 $x + y = -1$

9. $x = 2y - 5$
 $2x - y = 11$

10. $2x - y = 0$
 $x + 3y = -56$

11. $1.5x - 2.5y = 22$
 $x - y = 10$

12. $\frac{1}{2}x + \frac{3}{4}y = 5$
 $x - \frac{1}{2}y = 6$

Solve the linear system using elimination.

7.3 13. $x + 2y = 2$
 $-x + 3y = 13$

14. $3x - 4y = -16$
 $x - 4y = -40$

15. $3x + 2y = -31$
 $5x + 2y = -49$

16. $5x + 4y = 6$
 $7x + 4y = 14$

17. $10y - 3x = -41$
 $3x - 5y = 16$

18. $4x - 3y = 39$
 $7y = 4x - 79$

7.4 19. $x + y = -3$
 $5x + 7y = -9$

20. $5x + 2y = -19$
 $10x - 7y = -16$

21. $8x - 3y = 61$
 $2x - 5y = -23$

22. $4x - 3y = -2$
 $6x + 4y = 31$

23. $5x - 2y = 53$
 $2x + 6y = 11$

24. $15x - 8y = 6$
 $25x - 12y = 16$

Chapter 9

Find the sum or difference.

9.1 1. $(6x^2 + 7) + (x^2 - 9)$

3. $(10m^2 - 7m + 2) - (3m^2 - 2m + 5)$

5. $(6b^3 + 12b^2 - b) - (15b^2 + 7b - 8)$

2. $(8y^2 - 3y - 10) + (-11y^2 + 2y - 7)$

4. $(2t^3 - 3t^2 + 5t) - (6t^3 + 3t^2 - 5t)$

6. $(r^2 - 8 + 4r^3 + 5r) - (7r^3 - 3r^2 + 5)$

Find the product.

9.2 7. $5x^4(2x^3 - 3x^2 + 5x - 1)$

10. $(2x^2 - 5x + 6)(3x - 2)$

9.3 13. $(x + 10)^2$

16. $(3x - 4y)(3x + 4y)$

8. $(x^2 + 4x + 2)(x + 7)$

11. $(3x - 7)(x + 5)$

14. $(m + 8)(m - 8)$

17. $(6 - 3t)(6 + 3t)$

9. $(2x + 3)(4x + 2)$

12. $(9t - 2)(2t - 3)$

15. $(4x - 2)(4x + 2)$

18. $(-11x - 4y)^2$

9.4 Solve the equation.

19. $(m + 8)(m - 2) = 0$

22. $3b^2 + 9b = 0$

20. $(2y - 6)(y + 3) = 0$

23. $-12m^2 - 3m = 0$

21. $(5y - 3)(2y - 4) = 0$

24. $14k^2 = 28k$

9.5 Factor the trinomial.

25. $y^2 + 7y + 12$

28. $q^2 + 3q - 40$

26. $x^2 - 12x + 35$

29. $m^2 - 29m + 100$

27. $x^2 + 5x - 36$

30. $y^2 + 14y - 72$

9.5 Solve the equation.

31. $m^2 - 7m + 10 = 0$

34. $n^2 + 8 = 6n$

32. $p^2 - 7p = 18$

35. $r^2 - 15r = -8r - 10$

33. $z^2 - 13z + 24 = -12$

36. $c^2 - 8 = -13c + 6$

9.6 Factor the trinomial.

37. $-x^2 + 5x - 6$

40. $6t^2 - 5t - 6$

38. $3k^2 - 10k + 8$

41. $-3s^2 - 7s - 2$

39. $4k^2 - 12k + 5$

42. $2v^2 - 5v + 3$

9.6 Solve the equation.

43. $-3x^2 + 14x - 8 = 0$

46. $3p^2 - 28 = 17p$

44. $8t^2 + 6t = 9$

47. $16m^2 - 1 = -15m$

45. $2x^2 + 3x - 2 = 0$

48. $t(6t - 7) = 3$

9.7 Factor the polynomial.

49. $y^2 - 36$

52. $x^2 - 8x + 16$

55. $g^2 + 10g + 25$

50. $9y^2 - 49$

53. $4x^2 - 12x + 9$

56. $9b^2 + 24b + 16$

51. $12y^2 - 27$

54. $27x^2 - 36x + 12$

57. $4w^2 + 28w + 49$

9.8 Factor the polynomial completely.

58. $2x^2 + 8x + 6$

61. $3y^3 + 15y^2 + 2y + 10$

64. $8h^2k - 32k$

59. $3z^2 - 16z + 5$

62. $30z^3 - 14z^2 - 8z$

65. $2h^3 - 3h^2 - 18h + 27$

60. $5m^2 - 23m + 12$

63. $98m^3 - 18m$

66. $-12z^3 + 12z^2 - 3z$

Chapter 11

11.2 Simplify the expression.

10. $\sqrt{98}$

11. $\sqrt{300}$

12. $\sqrt{128x^3}$

13. $\sqrt{17} \cdot \sqrt{17}$

14. $\sqrt{112} \cdot \sqrt{63}$

15. $\sqrt{11g} \cdot 5\sqrt{g}$

16. $4m\sqrt{m} \cdot \sqrt{5m}$

17. $\sqrt{27x^5} \cdot \sqrt{48x}$

18. $\sqrt{\frac{19}{49}}$

19. $\sqrt{\frac{1}{6x^2}}$

20. $\frac{3}{\sqrt{5}}$

21. $\frac{\sqrt{7}}{\sqrt{8k}}$

22. $\sqrt{\frac{5}{27}}$

23. $2\sqrt{3} + \sqrt{7} + \sqrt{3}$

24. $2\sqrt{11} + \sqrt{99}$

25. $\sqrt{45} + 3\sqrt{20}$

26. $\sqrt{3}(12 - \sqrt{15})$

27. $3\sqrt{6}(4\sqrt{6} - \sqrt{600})$

28. $(6 - \sqrt{7})(6 - \sqrt{7})$

29. $(4 - \sqrt{13})(10 + \sqrt{13})$

11.3 Solve the equation. Check for extraneous solutions.

30. $6\sqrt{x} - 30 = 0$

31. $\sqrt{8x} + 5 = 13$

32. $\sqrt{x+3} + 5 = 16$

33. $3\sqrt{4x+1} - 2 = 25$

34. $\sqrt{3x-12} = \sqrt{5x-26}$

35. $\sqrt{2x+10} - \sqrt{x+7} = 0$

36. $\sqrt{\frac{1}{2}x+10} - \sqrt{2x-8} = 0$

37. $x = \sqrt{11x-10}$

38. $x = \sqrt{20-x}$

39. $5x = \sqrt{20x-3}$

40. $\sqrt{-4x+5} = 3x$

41. $x+1 = \sqrt{6-2x}$

11.4 Let a and b represent the lengths of the legs of a right triangle, and let c represent the length of the hypotenuse. Find the unknown length.

42. $a = 6, b = 8$

43. $a = 10, c = 26$

44. $b = 40, c = 41$

45. $a = 2, c = 5$

46. $a = 4, b = 7$

47. $b = 8, c = 11$

11.4 Tell whether the triangle with the given side lengths is a right triangle.

48. $a = 10, b = 24, c = 26$

49. $a = 2, b = 4, c = 6$

50. $a = 14, b = 15, c = 21$

51. $a = 16, b = 30, c = 34$

52. $a = 1.4, b = 4.8, c = 5$

53. $a = 13, b = 84, c = 95$

11.5 Find the distance between the two points.

54. $(5, 10), (2, 6)$

55. $(2, 8), (7, -4)$

56. $(3, -3), (4, 1)$

57. $(6, 1.5), (2.5, -4)$

58. $(1, \frac{2}{5}), (\frac{1}{2}, -\frac{4}{5})$

59. $(-\frac{3}{8}, 1), (\frac{5}{8}, \frac{1}{2})$

11.5 Find the midpoint of the line segment with the given endpoints.

60. $(6, -2), (8, -6)$

61. $(0, -5), (-4, 8)$

62. $(0, -6), (0, 2)$

63. $(10, 0), (-8, 0)$

64. $(-5, -3), (-8, -7)$

65. $(5, -\frac{1}{2}), (8, -\frac{5}{2})$

Geometry Summer Homework Answers

Chapter 3

- 1) 16 2) 21 3) -12 4) 1 5) 9 6) 11 7) 52 8) -24 9) 6 10) 2 11) 8
12) 48 13) -35 14) 7 15) 3 16) 5 17) -6 18) -3 19) -1 20) 8 21) 2
22) 6 23) 3 24) 4 25) $-1/2$ 26) 8 27) 56 28) 2 29) 16 30) 6
31) $5/7 = 15/x$; 21 32) $9/3 = x/12$; 36 33) $g/9 = 16/12$; 12
34) $6/18=y/3$; 1 35) 14 36) 1 37) 8 38) 20 39) 4 40) 8 41) -2 42) 1.6

Chapter 5

- 1) $y = 3x + 6$ 2) $y = -2x + 4$ 3) $y = 5x - 1$ 4) $y = -x - 3$
5) $y = 1/2x - 5$ 6) $y = 7/10x + 8$ 7) $y = 2x + 2$ 8) $y = -4x + 1$
9) $y = 2/3x + 7$ 10) $y = 3x - 2$ 11) $y = -5x + 3$ 12) $y = 2/3x - 1$

- 16) $y - 2 = 7(x + 4)$ or $y - 16 = 7(x + 2)$ 17) $y - 9 = 1/2(x - 3)$ or $y - 4 = 1/2(x + 7)$
18) $y + 2 = -2(x - 10)$ or $y + 6 = -2(x - 12)$ 19) $4x + y = 15$ 20) $3x - y = 4$
21) $2x + y = 0$ 22) $y = 3x = 11$ 23) $y = -5x - 22$ 24) $y = 3/4x - 9$
25) $y = -1/3x - 6$ 26) $y = -5/3x + 14$ 27) $y = 3/2x - 33/2$

Chapter 6

- 1) $y > 5$ 2) $x \leq -3$ 3) $x \leq 7$ 4) $m < -1$ 5) $n < 2 \frac{1}{2}$ 6) $n < -6 \frac{3}{8}$
7) $x < -4 \frac{7}{8}$ 8) $k \leq 2 \frac{1}{15}$ 9) $t \geq 1.5$ 10) $r < -4.7$ 11) $y < -5.5$ 12) $m \leq 4.61$
13) $p \leq 9$ 14) $t < -2$ 15) $x \geq 6$ 16) $y > -10$ 17) $m \leq 3/2$ 18) $n \leq -6$
19) $z \leq 8$ 20) $s > -10$ 21) $z \leq 2/3$ 22) $d < -20$ 23) $y > -4.5$ 24) $t > -5$
25) $x \geq 5$ 26) $z < 3$ 27) $t > -5$ 28) $n \geq 2$ 29) all real numbers
30) $d \geq 6$ 31) $y < 6$ 32) all real numbers 33) no solution
34) $6 \leq y < 11$ 35) $-3 < x < 3$ 36) $2 < z < 5$ 37) $2 < a < 3 \frac{1}{2}$ 38) $v > 6$ or $y < 4$
39) $r < -4$ or $r \geq -2$ 40) $m > -2$ or $m < 5$ 41) $t \geq 4$ or $t < -8$ 42) $n < -2$ or $n > 0$
43) ± 8 44) no solution 45) -11, -1 46) -3, 4 47) -14, 28

- 48) -2, 10 49) no solution 50) -15, 9 51) -1, 1 52) $-3\frac{2}{3}$, 1
 53) no solution 54) $3\frac{3}{5}$, 6 55) $-3 \leq x \leq 3$ 56) $y \leq -5$ or $y \geq 5$
 57) $s < -1.2$ or $s > 1.2$ 58) $-\frac{2}{5} < q < \frac{2}{5}$ 59) $x < -8$ or $x > 4$ 60) $-8 \leq y \leq 2$
 61) $5 < m < 11$ 62) $n \leq -\frac{3}{2}$ or $n \geq 2$ 63) $-1 \leq p \leq 7$ 64) $q \leq -\frac{13}{3}$ or $q \geq 3$
 65) $-\frac{3}{5} \leq a \leq 1$ 66) $-27 < c < 21$

Chapter 7

- 1) (3, 2) 2) (-2, 6) 3) (1, -3) 4) (4, 6) 5) (-3, -2) 6) (6, 4)
 7) (-3, 0) 8) $(-\frac{3}{2}, \frac{1}{2})$ 9) (9, 7) 10) (-8, -16) 11) (3, -7) 12) (7, 2)
 13) (-4, 3) 14) (12, 13) 15) (-9, -2) 16) $(4, -\frac{7}{2})$ 17) (-3, -5) 18) $(\frac{9}{4}, -10)$
 19) (-6, 3) 20) (-3, -5) 21) (11, 9) 22) $(\frac{5}{2}, 4)$ 23) $(10, -\frac{3}{2})$ 24) $(\frac{14}{2}, \frac{9}{2})$

Chapter 9

- 1) $7x^2 - 2$ 2) $-3y^2 - y - 17$ 3) $7m^2 - 5m - 3$ 4) $-4t^3 - 6t^2 + 10t$
 5) $6b^3 - 3b^2 - 8b + 8$ 6) $-3r^3 + 4r^2 + 5r - 13$ 7) $10x^7 - 15x^6 + 25x^5 - 5x^4$
 8) $x^3 + 11x^2 + 30x + 14$ 9) $8x^2 + 16x + 6$ 10) $6x^3 - 19x^2 + 28x - 12$
 11) $3x^2 + 8x - 35$ 12) $18t^2 - 31t + 6$ 13) $x^2 + 20x + 100$ 14) $m^2 - 64$
 15) $16x^2 - 4$ 16) $9x^2 - 16y^2$ 17) $36 - 9t^2$ 18) $121x^2 + 88xy + 16y^2$
 19) -8, 2 20) ± 3 21) $\frac{3}{5}, 2$ 22) -3, 0 23) $-\frac{1}{4}, 0$ 24) 0, 2
 25) $(y + 3)(y + 4)$ 26) $(x - 7)(x - 5)$ 27) $(x - 4)(x + 9)$ 28) $(q - 5)(q + 8)$
 29) $(m - 25)(m - 4)$ 30) $(y - 4)(y + 18)$ 31) 2, 5 32) -2, 9 33) 4, 9
 34) 2, 4 35) 2, 5 36) -14, 1 37) $-(x - 3)(x - 2)$ 38) $(3k - 4)(k - 2)$
 39) $(2k - 1)(2k - 5)$ 40) $(2t - 3)(3t + 2)$ 41) $-(3s + 1)(s + 2)$
 42) $(2v - 3)(v - 1)$ 43) $\frac{2}{3}, 4$ 44) $-\frac{3}{2}, \frac{3}{4}$ 45) -2, $\frac{1}{2}$ 46) $-\frac{4}{3}, 7$
 47) -1, $\frac{1}{16}$ 48) $-\frac{1}{3}, \frac{3}{2}$ 49) $(y + 6)(y - 6)$ 50) $(3y - 7)(3y + 7)$
 51) $3(2y - 3)(2y + 3)$ 52) $(x - 4)^2$ 53) $(2x - 3)^2$ 54) $3(3x - 2)^2$
 55) $(g + 5)^2$ 56) $(3b + 4)^2$ 57) $(2w + 7)^2$ 58) $(2x + 2)(x + 3)$ 59) $(3z - 1)(z - 5)$
 60) $(5m - 3)(m - 4)$ 61) $(3y^2 + 2)(y + 5)$ 62) $z(10z - 8)(3z + 1)$

- 63) $2m(7m - 3)(7m + 3)$ 64) $8k(h - 2)(h + 2)$ 65) $(h + 3)(h - 3)(2h - 3)$
 66) $-3z(2z - 1)^2$

Chapter 11

- 10) $7\sqrt{2}$ 11) $10\sqrt{3}$ 12) $8 \times \sqrt{2x}$ 13) 17 14) 84 15) $5g\sqrt{11}$
 16) $4m^2\sqrt{5}$ 17) $36x^3$ 18) $\frac{\sqrt{19}}{7}$ 19) $\frac{\sqrt{6}}{6x}$ 20) $\frac{3\sqrt{5}}{5}$ 21) $\frac{\sqrt{14k}}{4k}$
 22) $\frac{\sqrt{15}}{9}$ 23) $3\sqrt{3} + \sqrt{7}$ 24) $5\sqrt{11}$ 25) $9\sqrt{5}$ 26) $12\sqrt{3} - 3\sqrt{5}$
 27) -108 28) $43 - 12\sqrt{7}$ 29) $27 - 6\sqrt{13}$ 30) 25 31) 8 32) 118
 33) 20 34) 7 35) -3 36) 12 37) 1, 10 38) 4 39) $\frac{1}{5}, \frac{3}{5}$
 40) $\frac{5}{9}$ 41) 1 42) $c = 10$ 43) $b = 24$ 44) $a = 9$ 45) $b = \sqrt{21}$
 46) $c = \sqrt{65}$ 47) $a = \sqrt{57}$ 48) right triangle 49) not a right triangle
 50) not a right triangle 51) right triangle 52) right triangle 53) not a right
 triangle 54) 5 55) 13 56) $\sqrt{17}$ 57) $\sqrt{42.5} \approx 6.52$ 58) 1.3
 59) $\frac{\sqrt{5}}{2}$ 60) (7, -4) 61) (-2, 1.5) 62) (0, -2) 63) (1, 0)
 64) (-6.5, -5) 65) (6.5, -1.5)