

1. 1, 3	2. -6, -2	3. $-\frac{7}{2}, 1$	Homework Answers - p. 293
4. $-1, \frac{1}{3}$	5. -5	6. $-\frac{5}{2}, 1$	
7. $\frac{3 \pm \sqrt{5}}{2}$	8. $-3 \pm \sqrt{14}$	9. $\frac{2 \pm \sqrt{10}}{3}$	
10. $-\frac{1}{2}, \frac{3}{4}$	11. 1, 4	12. $-\frac{5}{3}, \frac{1}{3}$	
13. $3 \pm i\sqrt{2}$	14. $1 \pm 2i$	15. $-\frac{3}{2} \pm \frac{i\sqrt{11}}{2}$	
16. $-2 \pm i\sqrt{2}$	17. $1 \pm i\sqrt{2}$	18. $-\frac{2}{3} - \frac{i\sqrt{26}}{3}$	
19. $\frac{5}{2} \pm \frac{i\sqrt{3}}{2}$	20. $\frac{7}{4} \pm \frac{i\sqrt{15}}{4}$	21. $-\frac{1}{15} \pm \frac{i\sqrt{14}}{15}$	
22. $-\frac{1}{2}, 3$	23. $\frac{5}{3} \pm \frac{\sqrt{10}}{3}; 0.61, 2.72$		
24. $-\frac{2}{3} \pm \frac{\sqrt{13}}{3}; -1.87, 0.54$	25. $-\frac{1}{6}, 1$		
26. $\frac{1}{14} \pm \frac{\sqrt{337}}{14}; -1.24, 1.38$	27. $-\frac{4}{5} \pm \frac{\sqrt{71}}{5}; -2.49, 0.89$		
28. $-\frac{1}{2} \pm \frac{\sqrt{23}}{2}; -2.90, 1.90$	29. $\frac{5}{4} \pm \frac{\sqrt{33}}{4}; -0.19, 2.69$		
30. $-\frac{1}{4} \pm \frac{\sqrt{5}}{4}; -0.81, 0.31$	31. -4; two, imaginary		
32. 36; two, real	33. 0; one, real		
34. -223; two, imaginary	35. 169; two, real		
36. -116; two, imaginary	37. 1; two, real		
38. 0; one, real	39. 0; one, real	40. no	

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57. two	58. one	59. none
66. a. II b. III c. I		
67. a. $x^2 = 100\pi$ b. 17.72 cm		
68. a. yes b.	Do the Quad Solve	
c. $0 < t < 5$		

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$2x^2 + x - 28$
 $a \cdot c = 2 \cdot -28 = -56$
 Factors, Add : -7 and +8
 $-56 \quad b = +1$
 ~~$2x^2 - 7x + 8x - 28$~~
 $x(2x-7) + 4(2x-7)$
 $(2x-7)(x+4)$

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$$\begin{aligned}2a^2 - 16a + 32 &= 0 \\2(a^2 - 8a + 16) &= 0 \\2(a-4)(a-4) &= 0 \\a-4=0 \quad a-4=0 \\a &= 4\end{aligned}$$

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Factor

$$2x^2 + x - 28$$
$$a \cdot c = 2 \cdot -28 = -56$$

F and A = +8 and -7

$$2x^2 + 8x - 7x - 28$$
$$2x(x+4) - 7(x+4)$$
$$(2x-7)(x+4)$$

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$$\begin{aligned}-15x^2 - 21x &= 0 \\-3x(5x+7) &= 0 \\-3x=0 \quad 5x+7=0 \\x &= 0\end{aligned}$$

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Section 5.4 - 5.8 Test Review

Grade: 9 - 12
Subject: Algebra 2
Date: November 5

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1 Factor
 $7x^2 + 56x$

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2 Factor
 $2x^2 - 72$

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3 Solve by factoring

$$x^2 + 8x - 9 = 0$$

-1 and 9

$$(x-1)(x+9) = 0$$

$$x-1=0 \quad x+9=0$$

$$x=1 \quad x=-9$$

What if this was MC????

A) -1 or 9

B) -9 or 1

C) 1/2 or 3

D) -1/3 or 4

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4 Solve by factoring

$$3x^2 + 5x = 28$$

$$3x^2 + 5x - 28 = 0$$

$$a \cdot c = -84$$

$$F \text{ and } A = +12, -7$$

$$3x^2 + 12x - 7x - 28 = 0$$

$$3x(x+4) - 7(x+4) = 0$$

$$(3x-7)(x+4) = 0$$

$$3x-7=0 \quad x+4=0$$

$$x = \frac{7}{3}$$

$$x = -4$$

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5 Solve using the quadratic formula

$$4x^2 + 4x + 4 = 0$$

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6 Simplify
 $4\sqrt{-9} - 2$

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7 Simplify
 $(7 - 4i)(10 - 2i)$

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8 Find the value of the discriminant and use it to determine the number of solutions. Are the solutions real or imaginary?

$$2x^2 - 5x + 7 = 0$$

A -81, two real solutions
B -81, two imaginary solutions
C -31, two real solutions
D -31, two imaginary solutions
E None of the above

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9 Complete the square
 $x^2 + 20x + \underline{\hspace{2cm}}$

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10 For a model rocket, the altitude h , in meters, as a function of t , in seconds, is given by the function provided below. How long will it take the model rocket to hit the ground? Round to the nearest hundredth.

$$h = 68t - 4.9t^2$$

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Homework:
p. 844 (15 - 43 odd, 49 - 65 odd)
Need more practice? Try the evens!
All answers available on-line! Already!

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Lesson 5-4 Factor each expression.

$15. x^2 + 3x - 54$	$16. x^2 + 18x + 24$	$17. x^2 - 36$	$18. x^2 - 9x - 36$
$19. x^2 - 15x + 56$	$20. 25x^2 + 70x + 49$	$21. 7x^2 - 20x - 3$	$22. 5x^2 + 23x - 10$
$23. \frac{1}{4}x^2 - 4$	$24. x^2 - 6x - 16$	$25. 4x^2 + 12x + 9$	$26. 4x^2 - 6x + 9$

Lesson 5-5 Solve each equation by factoring, by taking square roots, or by graphing. When necessary, round your answer to the nearest hundredth.

$27. x^2 + 4x - 1 = 0$	$28. 4x^2 - 100 = 0$	$29. x^2 - 2 = 1$	$30. x^2 = 0 = 0$
$31. 3x^2 + 4x - 7 = 0$	$32. x^2 - 30 = 10$	$33. x^2 + 4x = 0$	$34. x^2 + 3x + 2 = 0$

Lesson 5-6 Simplify each expression.

$35. (3 - 0) + (5 - 2)$	$36. (4 + 2)(1 - 0)$	$37. (4 + 2)(-3 + 5)$
$38. (8 - 3)(6 + 9)$	$39. (2 + 5) - (-6 + 0)$	$40. (-2 - 3)(7 - 0)$

Lesson 5-6 Solve each equation. Check your answers.

$41. x^2 + 16 = 0$	$42. 4x^2 = -1$	$43. x^2 = -10$
$44. 4x^2 + 48 = 0$	$45. -2x^2 = 5$	$46. x^2 + 3 = 0$

Lesson 5-6 Find the first three output values of each fractal generating function. Use $x = 0$ as the first input value.

$47. f(x) = 2^x - 1$	$48. f(x) = x^2 + 2 = x$
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Lessons 5-7 and 5-8 Solve each equation by completing the square or using the Quadratic Formula.

$49. x^2 + 3x + 8 = 4$	$50. 3x^2 - 4x = 0$	$51. 2x^2 - 3x + 1 = 0$
$52. 3x^2 - 7x + 9 = 0$	$53. x^2 + 10 - 4x = 2$	$54. x^2 - 7x = 0$
$55. x^2 - 4x + 4 = 0$	$56. x^2 - 7 = 0$	$57. x^2 + 8x - 17 = 0$

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Lesson 5-8 Evaluate the discriminant of each equation. Tell how many solutions each equation has and whether the solutions are real or imaginary.

$58. x^2 + 4x = 17$	$59. 2x^2 + x = -1$	$60. x^2 - 4x + 5 = 0$	$61. 2x^2 + 5x = 0$
$62. x^2 - 19 = 1$	$63. 3x^2 = 8x - 4$	$64. -2x^2 + 1 = 7x$	$65. 4x^2 + 4x = -1$

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