

RBHS Honors Algebra 3/4 Recommended Summer Assignment

Note to potential honors math student: One of the key characteristics of an honors student is perseverance. When attempting a difficult assignment an honors student will **NOT** give up. If you have any questions regarding this assignment, please contact Mr. Deem at rdeem@powayusd.com or Ms. Nellos at anellos@powayusd.com.

*This assignment will **NOT** be collected, but it is expected that you have mastered most of the 1st year Algebra topics and you will be tested on them within the 1st week of school. Do as many problems necessary to ensure that you are ready for the beginning of the school year.*

****Calculators are **NOT** permitted when completing this assignment. ****

Instructions: In order to receive full credit, you must show all relevant work on a separate sheet of paper. Your work should be neat, organized, and easy to follow. Give exact answers. (Leave all answers in reduced radical or rational form unless otherwise instructed.)

#1 - 10: Use the following to make substitutions and simplify.

$$a = -1, b = -2, c = -4, d = -9, e = -10, f = 2, g = 3, h = 5, k = 8$$

Example:

$$\begin{aligned} a^3c - d^2 \\ (-1)^3(-4) - (-9)^2 \\ -1(-4) - 81 \\ 4 - 81 \\ -77 \end{aligned}$$

- | | | | |
|--|---|---|-----------------------------------|
| 1. $b^2 - 2cd$ | 2. $d \div g \bullet e \div h$ | 3. $3b - \frac{1}{2}e + \frac{k}{c}$ | 4. $\frac{gh - a^{-15}}{afg - e}$ |
| 5. $b^3 - a^3 - (b - a)^3$ | 6. $a + [d(b^3 - c^2) - k]$ | 7. $(3 e + 2b) \div (- h - af ^2)$ | |
| 8. $(b - k) + [a(d^2 \div g^2)(e \div f^2)]$ | 9. $\frac{c^2d(afk)^{-2}}{f^2b^4(ac)^{-3}}$ | 10. $\frac{d}{h} + \frac{b}{e} \div \frac{2c - b}{ghk}$ | |

#11 - 39: Solve each equation for x . Put answers in solution set notation

Example 1:

$$\begin{aligned} \frac{1}{2}x - \frac{2}{3} &= \frac{5}{6}\left(2x - \frac{18}{5}\right) \\ 6\left(\frac{1}{2}x - \frac{2}{3}\right) &= \left(\frac{5}{6}\left(2x - \frac{18}{5}\right)\right)6 \\ 3x - 4 &= 5\left(2x - \frac{18}{5}\right) \\ 3x - 4 &= 10x - 18 \\ 14 &= 7x \\ 2 &= x \\ \{x \mid x = 2\} &\text{ or } \{2\} \end{aligned}$$

Example 2:

$$\begin{aligned} |2x + 3| - 8 &= -1 \\ |2x + 3| &= 7 \\ \text{2 equations:} \\ 2x + 3 &= 7 \quad \text{or} \quad -(2x + 3) = 7 \\ 2x &= 4 & \quad 2x + 3 &= -7 \\ x &= 2 & \quad 2x &= -10 \\ & & \quad x &= -5 \\ \{x \mid x = -5, 2\} &\text{ or } \{-5, 2\} \end{aligned}$$

Solve by factoring.

Ex. 3:

$$2x^2 + 40 = 21x$$

$$2x^2 - 21x + 40 = 0$$

$$(2x - 5)(x - 8) = 0$$

$$2x - 5 = 0 \quad x - 8 = 0$$

$$2x = 5 \quad x = 8$$

$$x = \frac{5}{2}$$

$$\left\{ \frac{5}{2}, 8 \right\}$$

Solve by quadratic formula.

Ex. 4:

$$x^2 - 8x + 2 = 0 \text{ (does not factor)}$$

$$a = 1 \quad b = -8 \quad c = 2$$

$$x = \frac{-(-8) \pm \sqrt{(-8)^2 - 4(1)(2)}}{2(1)}$$

$$x = \frac{8 \pm \sqrt{64 - 8}}{2}$$

$$x = \frac{8 \pm \sqrt{56}}{2}$$

$$x = \frac{8 \pm 2\sqrt{14}}{2}$$

$$x = 4 \pm \sqrt{14}$$

$$\{4 \pm \sqrt{14}\}$$

Ex. 5:

$$\frac{xy + 3x}{v - w} = z$$

$$x(y + 3) = z(v - w)$$

$$x = \frac{vz - wz}{y + 3}$$

$$\left\{ \frac{vz - wz}{y + 3} \right\}$$

11. $3x - 5 = 4x + 2$

12. $5(2x - 3) + 7 = -6(4 - 2x) - 5$

13. $x + 2 = x + 3$

14. $(x - 3)(2x + 5) = 2(x^2 + 7x - 5) + 5$

15. $3x - 2(5 - x) = 5(x - 2)$

16. $2(3x - 5) = 5 - (2x - 5)$

17. $\frac{1}{6}(3x - 3) = \frac{1}{15}(4x + 1) + 2$

18. $4(x - 2) - 3(2x + 5) = -[1 - 8(3x + 7)]$

19. $\frac{2}{3}x + \frac{5}{4} = \frac{1}{2}\left(4x - \frac{1}{6}\right)$

20. $|2x + 1| + 4 = 11$

21. $2\left|\frac{x}{5} - 3\right| = 14$

22. $-4|x + 3| - 5 = 15$

23. $x^2 - 2x - 15 = 0$

24. $43x - 77 = 6x^2$

25. $16x^2 - 1 = 0$

26. $4x^2 = x$

27. $x^2 - 4x + 4 = 0$

28. $9x^2 = 15x - 4$

29. $2x^2 - 21 = x$

30. $\frac{x}{3x + 1} = \frac{x + 2}{2x + 4}$

31. $x^2 - 6x + 1 = 0$

32. $3x^2 + 10x - 8 = 0$

33. $(x + 8)(x - 6) = -24$

34. $(3x - 1)^2 - 16 = 0$

35. $16 - x^4 = 0$

36. $ax - by = e - cd$

37. $ax - bx = gk$

38. $2(3x - k) = 7(2x + k) - 5$

39. $j = a + (x - 1)d$

40 – 50: Solve each inequality: Put answers in solution set notation.

Example 1:

$$-3 \leq 2x + 1 \leq 11 \quad \text{change to 2 inequalities}$$

$$-3 \leq 2x + 1 \quad \text{and} \quad 2x + 1 \leq 11$$

$$-4 \leq 2x \quad \text{and} \quad 2x \leq 10$$

$$-2 \leq x \quad \text{and} \quad x \leq 5$$

$$\{x \mid -2 \leq x \leq 5\}$$



“and” means intersection of the inequalities

Example 2:

$|1-2x| > 3$ change to 2 equations

$1-2x=3$ or $-(1-2x)=3$

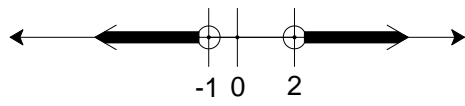
$-2x=2$ or $1-2x=-3$

$x=-1$ or $-2x=-4$

$x=2$

“or” means union of the inequalities

interval test (choose values to test in the intervals created by the values -1 and 2)



$x=-2$

$x=0$

$x=3$

$|1-2(-2)| > 3$

$|1-2(0)| > 3$

$|1-2(3)| > 3$

$|1-(-4)| > 3$

$|1-0| > 3$

$|1-6| > 3$

$|5| > 3$

$|1| > 3$

$|-5| > 3$

true

false

true

$\{x | x < -1 \text{ or } x > 2\}$

40. $x-8 > 2$

41. $2-3x < x+6$

42. $x+3-2(x+5) < 3x+2$

43. $|x-4| = -2$

44. $|2x+3|-4 \geq 1$

45. $6+|2x-1| < 10$

46. $2\left|5-\frac{x}{3}\right|-5 \geq -3$

47. $5-|2-x|+3 \geq -1$

48. $2x+1 \leq -3$ or $-2x+1 < -3$

49. $15 < 2x-7 \leq 33$

50. $-15 \leq -\frac{5x}{3} < 0$

51- 85: Factor completely. Circle your answers.

Example 1:

$3x^4y - 3x^3y^3 + 6x^2y^2 - 3x^2y$
 $= 3x^2y(x^2 - xy^2 + 2y - 1)$

Example 2:

$2a^2 - 32$
 $= 2(a^2 - 16)$
 $= 2(a+4)(a-4)$

Example 3:

$15 - 2x - x^2$
 $= -1(x^2 + 2x - 15)$
 $= -1(x+5)(x-3)$

Example 4:

$5x^3 - 135$
 $= 5(x^3 - 27)$
 $= 5(x-3)(x^2 + 3x + 9)$

Example 5:

$14x^3 - 38x^2 + 20x$
 $= 2x(7x^2 - 19x + 10)$
 $= 2x(7x-5)(x-2)$

51. $5x-10y$

52. $3b^2-12b$

53. $4a^4x^4-18a^3x^3-6a^2x^2+8ax$

54. $m^8-m^6+m^3$

55. $2c(x-3y)-4a(x-3y)$

56. $12x^7-21x^5$

57. c^2-81

58. $9a^2-b^2$

59. $25f^4-36g^2$

60. $144-36x^2$

61. $x^2-5x-36$

62. $x^2+10x+16$

63. $x^2-13x-48$

64. $x^2+21x+80$

65. $90+9x-x^2$

66. $72-17x+x^2$

67. $3x^2-x-2$

68. $5x^2+7x-6$

69. $6x^2+11x-35$

70. $4x^2-12x+9$

71. $6x^2+11x-10$

72. $5+33x-14x^2$

73. $4-100x^4$

74. $121a^2-\frac{b^2}{4}$

75. $2x^3+6x^2+4x$

76. $4ax^3-32ax^2-36ax$

77. $48x^2-80x+12$

78. x^4-81

79. $10+18x-4x^2$

80. $21x^4-82x^3-39x^2$

81. xa^4-xb^4

82. $8x^3+27y^3$

83. $1-125a^3$

84. $as+bs-at-ay$

85. $pq-2p-7q+14$

Ex. 2:

Graph:

$$y = 2x^2 + 4x + 2$$

$$x = \frac{-4}{2(2)} = \frac{-4}{4} = -1$$

axis of symmetry: $x = -1$

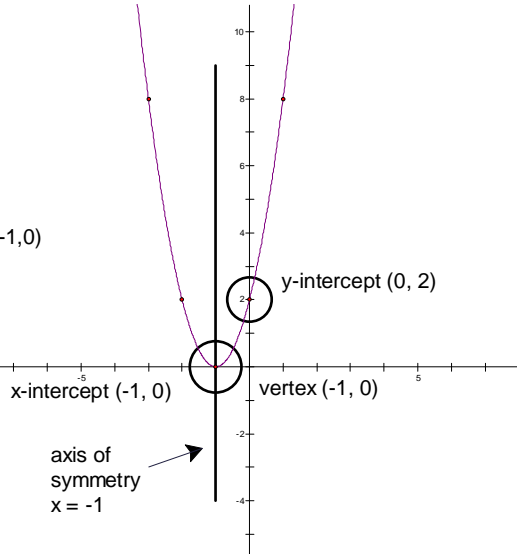
$$y = 2(-1)^2 + 4(-1) + 2$$

$$y = 2 + (-4) + 2$$

$$y = 0$$

vertex $(-1, 0)$

x	y = 2x ² + 4x + 2	y
-3	2(-3) ² + 4(-3) + 2	8
-2	2(-2) ² + 4(-2) + 2	2
-1	vertex	0
0	2(0) ² + 4(0) + 2	2
1	2(1) ² + 4(1) + 2	8



94. $y = -2x + 3$

95. $y = \frac{3}{5}x - 4$

96. $y - 1 = x + 4$

97. $3x - 7y = 14$

98. $y - 4 = 2(x - 2)$

99. $2x = 3y$

100. $3y = 6$

101. $2x + 8 = x + 5$

102. $y = 2x^2$

103. $y = x^2 - 4x + 1$

104. $y = -x^2 + 2x + 3$

105. $y = x^2 - 2$

106. $y = 4 - x^2$

107. $y = 3x^2 - 12x + 8$

108. $y = -2x^2 + 4x$

#109 - 130: Simplify each:

Example 1:

$$\begin{aligned} & \frac{(x^3 y^{-4} z^5)^2 (x^5 y z^5)^{-2}}{(x^5 y z^5)^2} \\ &= \frac{x^6 y^{-8} z^{10}}{(x^5 y z^5)^2} \\ &= \frac{x^6 y^{-8} z^{10}}{x^{10} y^2 z^{10}} \\ &= \frac{1}{x^4 y^{10}} \end{aligned}$$

Example 2:

$$\begin{aligned} & \frac{(5d^{-5} e^{-4} f^2 g^0)^{-3} (3d^{-2} e f^3 g^{-4})^2}{(5^{-3} d^{15} e^{12} f^{-6}) (9d^{-4} e^2 f^6 g^{-8})} \\ &= \frac{9}{125} d^{11} e^{14} f^0 g^{-8} \\ &= \frac{9d^{11} e^{14}}{125g^8} \end{aligned}$$

Example 3:

$$\begin{aligned} & \frac{2}{3} \sqrt{108} \\ &= \frac{2}{3} \sqrt{4 \cdot 9 \cdot 3} \\ &= \frac{2}{3} \sqrt{4 \cdot 9} \sqrt{3} \\ &= \frac{2}{3} \cdot 2 \cdot 3 \sqrt{3} \\ &= 4\sqrt{3} \end{aligned}$$

Example 4:

$$\begin{aligned} & \sqrt{72} - 2\sqrt{24} + \frac{1}{3}\sqrt{18} \\ &= \sqrt{36} \sqrt{2} - 2\sqrt{4} \sqrt{6} + \frac{1}{3}\sqrt{9} \sqrt{2} \\ &= 6\sqrt{2} - 4\sqrt{6} + \sqrt{2} \\ &= 7\sqrt{2} - 4\sqrt{6} \end{aligned}$$

$$\begin{array}{lllll}
109. \frac{y^4 \square y^5 \square y}{2y^3} & 110. (abc^{-2})(ab^{-1}c^2) & 111. (-2x^4)^3 & 112. -(c^2d^3)^{-2} & 113. \left(-\frac{x^3y^5}{4x^7y}\right)^{-3} \\
114. (3g^{-3}h^2j^3k^{11})^2(-2gh^{-4}j^5k^{-2})^{-1} & 115. \frac{(xy^2)^3 \square (x^2y)^2}{(x^3y^2)^3} & 116. \sqrt{144} & 117. \pm \sqrt{\frac{9}{16}} \\
118. \sqrt[3]{-125} & 119. \sqrt[3]{\frac{1}{8}} & 120. -2\sqrt{48} & 121. \frac{2}{5}\sqrt{150} & 122. \frac{1}{\sqrt{8}} \\
123. \sqrt{\frac{2}{7}} & 124. \sqrt{\frac{16}{3}} \square \sqrt{\frac{1}{2}} & 125. \sqrt{2}(3\sqrt{10}-\sqrt{2}) & 126. \sqrt{18}+2\sqrt{8}-3\sqrt{50}+\sqrt{128} \\
127. 6\sqrt{27}-7\sqrt{12} & 128. 3\sqrt{98}+5\sqrt{72}-\sqrt{63} & 129. \frac{1}{3}\sqrt{288}+\frac{1}{15}\sqrt{450} & 130. \sqrt{\frac{2}{3}}+\sqrt{\frac{3}{2}}
\end{array}$$

#131 - 140: Simplify each:

Example 1:

$$\begin{aligned}
& \frac{x^2-2x-3}{2x^2-18} \div \frac{x^2-6x-7}{x^2-4x-21} \\
&= \frac{x^2-2x-3}{2x^2-18} \square \frac{x^2-4x-21}{x^2-6x-7} \\
&= \frac{(x+1)(x-3)}{2(x-3)(x+3)} \square \frac{(x-7)(x+3)}{(x-7)(x+1)} \\
&= \frac{1}{2}
\end{aligned}$$

Example 2:

$$\begin{aligned}
& \frac{1-2x}{x} - \frac{x+3}{2x} + \frac{2x-4}{4x^2} \\
&= \frac{4x(1-2x)}{4x^2} - \frac{2x(x+3)}{4x^2} + \frac{2x-4}{4x^2} \\
&= \frac{4x-8x^2-2x^2-6x+2x-4}{4x^2} \\
&= \frac{-10x^2-4}{4x^2} \\
&= \frac{2(-5x^2-2)}{4x^2} \\
&= \frac{-5x^2-2}{2x^2}
\end{aligned}$$

$$\begin{array}{llll}
131. \frac{x^2+2x-24}{x^2-36} & 132. \frac{3a^3-12a^2}{5a^3-20a^2} & 133. \frac{5-x}{x-5} & 134. \frac{c^2-9}{2c-6} \square \frac{c^2-c-6}{c^2+5c+6} \\
135. \frac{x^2+3x-10}{x^2+2x-3} \div \frac{x^2-3x+2}{x^2+2x-3} & 136. \frac{x^3-5x^2+4x}{x^2-x-12} \square \frac{x^2-x}{x^2+3x} & 137. \frac{4}{a^2} + \frac{5}{6a} \\
138. \frac{2x-1}{5} - \frac{2x-1}{7} - \frac{3x+2}{14} & 139. \frac{1}{x-y} - \frac{1}{x+y} & 140. \frac{1}{2x-3y} - \frac{6y}{4x^2-9y^2}
\end{array}$$

#141 - 150: Solve each system of equations: Put answers in solution set notation.

Example 1:

$$\begin{cases} y = 3x - 11 \\ x + 5y = 9 \end{cases}$$

$$x + 5(3x - 11) = 9$$

$$x + 15x - 55 = 9$$

$$16x = 64$$

$$x = 4$$

$$y = 3x - 11$$

$$y = 3(4) - 11$$

$$y = 12 - 11$$

$$y = 1$$

$$\{(4, 1)\}$$

Example 2:

$$\begin{cases} 5x - 3y = -34 \\ 2x + 7y = -30 \end{cases}$$

$$7(5x - 3y = -34) \rightarrow 35x - 21y = -238$$

$$3(2x + 7y = -30) \rightarrow 6x + 21y = -90$$

$$41x = -328$$

$$x = -8$$

$$2x + 7y = -30$$

$$2(-8) + 7y = -30$$

$$-16 + 7y = -30$$

$$7y = -14$$

$$y = -2$$

$$\{(-8, -2)\}$$

141.
$$\begin{cases} 3x - y = 7 \\ 5x + 4y = 6 \end{cases}$$

145.
$$\begin{cases} y = -5x + 8 \\ x = -2y - 2 \end{cases}$$

149.
$$\begin{cases} 2x + \frac{y}{3} = 1 \\ 7x - \frac{y+4}{5} = 15 \end{cases}$$

142.
$$\begin{cases} y = -3x - 7 \\ -3x + 2y = 4 \end{cases}$$

146.
$$\begin{cases} 42 = 5y - 3x \\ x = \frac{1}{2} - \frac{3}{4}y \end{cases}$$

150.
$$\begin{cases} \frac{3x-4}{5y+3} = 1 \\ \frac{2x}{y} - 3 = \frac{4}{y} \end{cases}$$

143.
$$\begin{cases} 3x - 2y = 4 \\ 6x - 4y = -5 \end{cases}$$

147.
$$\begin{cases} 5x + 4y = 8 \\ 10x + 8y = 16 \end{cases}$$

144.
$$\begin{cases} 3x = 5y - 13 \\ 6x - 3y = 9 \end{cases}$$

148.
$$\begin{cases} 5y = 79 - 11y \\ 31x - 14y = 26 \end{cases}$$

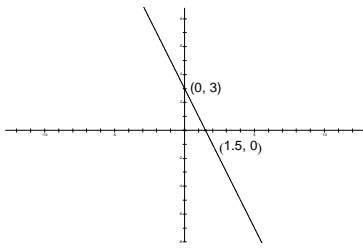
RBHS Honors Algebra 3/4 Summer Assignment Solutions

1. -68 2. 6 3. -3 4. 4 5. -6 6. 207 7. $-\frac{6}{7}$
8. $\frac{25}{2}$ 9. $-\frac{9}{16}$ 10. $-\frac{29}{5}$ 11. $\{-7\}$ 12. $\left\{\frac{21}{2}\right\}$ 13. $\{\}$
14. $\left\{-\frac{2}{3}\right\}$ 15. $\{x/x \in \mathcal{R}\}$ 16. $\left\{\frac{5}{2}\right\}$ 17. $\{11\}$ 18. $\{-3\}$
19. $\{1\}$ 20. $\{-4, 3\}$ 21. $\{-20, 50\}$ 22. $\{\}$ 23. $\{-3, 5\}$
24. $\left\{\frac{7}{2}, \frac{11}{3}\right\}$ 25. $\left\{\pm\frac{1}{4}\right\}$ 26. $\left\{0, \frac{1}{4}\right\}$ 27. $\{2dr\}$ 28. $\left\{\frac{1}{3}, \frac{4}{3}\right\}$
29. $\left\{-3, \frac{7}{2}\right\}$ 30. $\{-1\}$ 31. $\{3 \pm 2\sqrt{2}\}$ 32. $\left\{-4, \frac{2}{3}\right\}$ 33. $\{-6, 4\}$
34. $\left\{-1, \frac{5}{3}\right\}$ 35. $\{\pm 2\}$ 36. $\left\{\frac{e-cd+by}{a}\right\}$ 37. $\left\{\frac{gk}{a-b}\right\}$
38. $\left\{\frac{5-9k}{8}\right\}$ 39. $\left\{\frac{j-a+d}{d}\right\}$
40. $\{x/x > 10\}$ 41. $\{x/x > -1\}$ 42. $\left\{x/x > -\frac{9}{4}\right\}$ 43. $\{\}$
44. $\{x/x \leq -4 \text{ or } x \geq 1\}$ 45. $\left\{x/-\frac{3}{2} < x < \frac{5}{2}\right\}$ 46. $\{x/x \leq 12 \text{ or } x \geq 18\}$
47. $\{x/-7 \leq x \leq 11\}$ 48. $\{x/x \leq -2 \text{ or } x > 2\}$ 49. $\{x/11 < x \leq 20\}$
50. $\{x/0 < x \leq 9\}$ 51. $5(x-2y)$ 52. $3b(b-4)$
53. $2ax(2a^3x^3 - 9a^2x^2 - 3ax + 4)$ 54. $m^3(m^5 - m^3 + 1)$ 55. $2(x-3y)(c-2a)$
56. $3x^5(4x^2 - 7)$ 57. $(c+9)(c-9)$ 58. $(3a-b)(3a+b)$ 59. $(5f^2 + 6g)(5f^2 - 6g)$
60. $36(2+x)(2-x)$ 61. $(x-9)(x+4)$ 62. $(x+8)(x+2)$ 63. $(x-16)(x+3)$
64. $(x+16)(x+5)$ 65. $-(x-15)(x+6)$ 66. $(x-9)(x-8)$ 67. $(3x+2)(x-1)$
68. $(5x-3)(x+2)$ 69. $(3x-5)(2x+7)$ 70. $(2x-3)^2$ 71. $(3x-2)(2x+5)$
72. $-(7x+1)(2x-5)$ 73. $4(1-5x^2)(1+5x^2)$ 74. $\left(11a + \frac{1}{2}b\right)\left(11a - \frac{1}{2}b\right)$
75. $2x(x+2)(x+1)$ 76. $4ax(x-9)(x+1)$ 77. $4(6x-1)(2x-3)$
78. $(x^2+9)(x+3)(x-3)$ 79. $-2(2x+1)(x-5)$ 80. $x^2(7x+3)(3x-13)$
81. $x(a^2+b^2)(a+b)(a-b)$ 82. $(2x+3y)(4x^2-6xy+9y^2)$ 83. $(1-5a)(1+5a+25a^2)$
84. relatively prime 85. $(p-7)(q-2)$ 86. $x+2y=-11$ 87. $x+y=-3$
88. $2x+y=-6$ 89. $5x-2y=1$ 90. $2x-3y=-11$ 91. $y=-22$
92. $x=-4$ 93. $y=-12.$

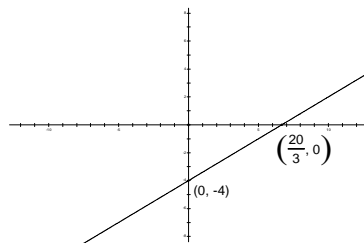
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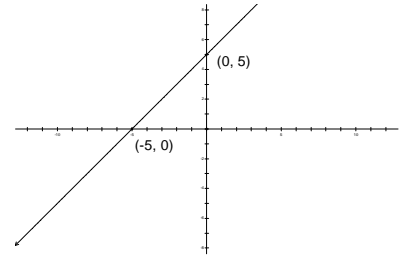
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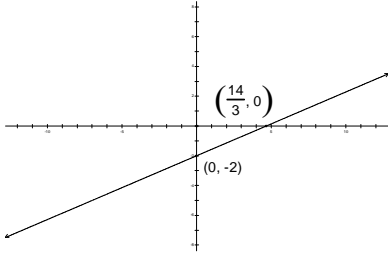
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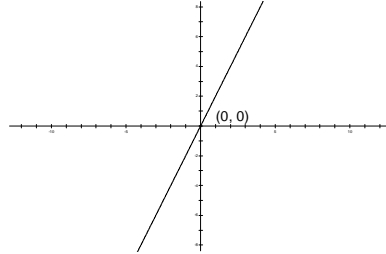
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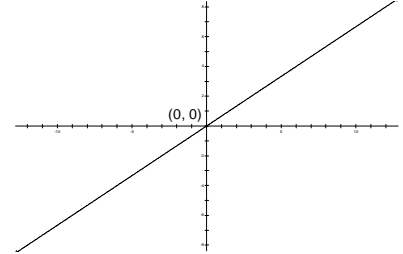
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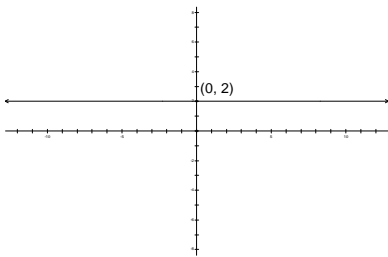
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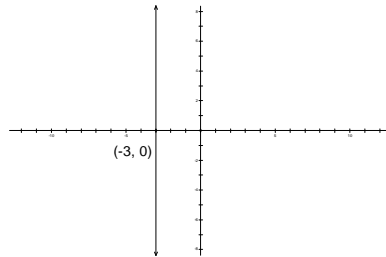
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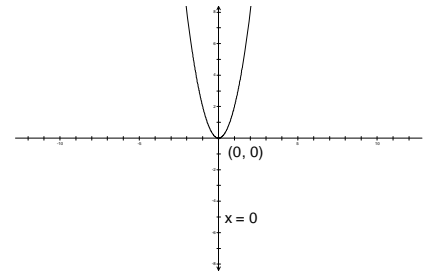
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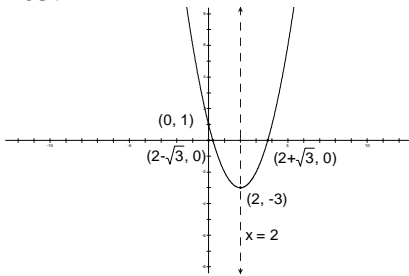
103.



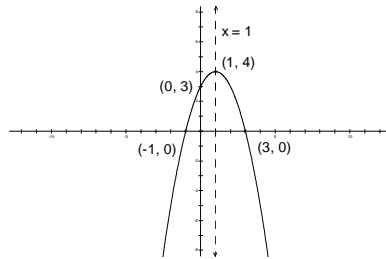
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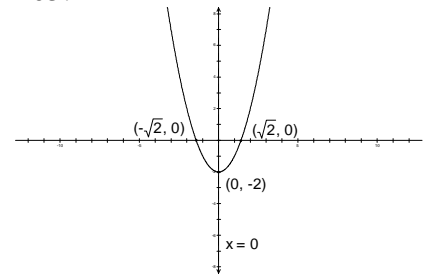
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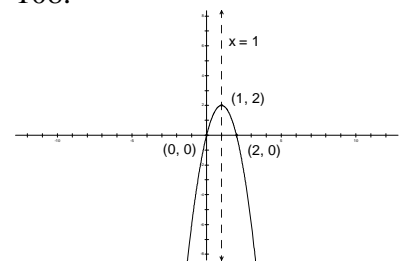
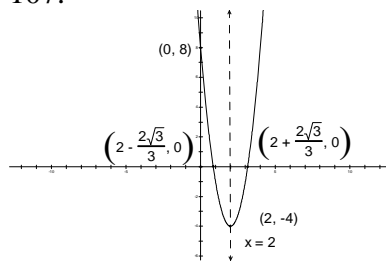
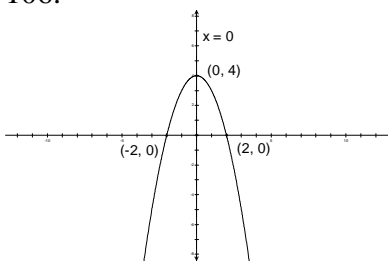
106.



107.



108.



109. $\frac{y^7}{2}$

110. a^2

111. $-8x^{12}$

112. $-\frac{1}{c^4d^6}$

113. $-\frac{64x^{12}}{y^{12}}$

114. $-\frac{9h^8jk^{24}}{2g^7}$

115. $\frac{y^2}{x^2}$

116. 12 117. $\pm\frac{3}{4}$

118. -5

119. $\frac{1}{2}$

120. $-8\sqrt{3}$

121. $2\sqrt{6}$ 122. $\frac{\sqrt{2}}{4}$

123. $\frac{\sqrt{14}}{7}$

124. $\frac{2\sqrt{6}}{3}$

125. $6\sqrt{5}-2$

126. 0 127. $4\sqrt{3}$

128. $51\sqrt{2}-3\sqrt{7}$

129. $5\sqrt{2}$

130. $\frac{5\sqrt{6}}{6}$

131. $\frac{x-4}{x-6}$ 132. $\frac{3}{5}$

133. -1
134. $\frac{c-3}{2}$
135. $\frac{x+5}{x-1}$
136. $\frac{x(x-1)^2}{(x+3)^2}$
137. $\frac{5a+24}{6a^2}$
138. $-\frac{(x+2)}{10}$
139. $\frac{2y}{(x-y)(x+y)}$
140. $\frac{1}{2x+3y}$
141. $\{(2,-1)\}$
142. $\{(-2,-1)\}$
143. $\{ \}$
144. $\{(4,5)\}$
145. $\{(2,-2)\}$
146. $\{(-4,6)\}$
147. $\{(x,y) / (x,y) \in 5x+4y=8\}$
148. $\left\{ \left(\frac{261}{248}, \frac{79}{16} \right) \right\}$ or $\{(4,7)\}$ (depending upon which version you downloaded)
149. $\{(2,-9)\}$
150. $\{(-1,-2)\}$