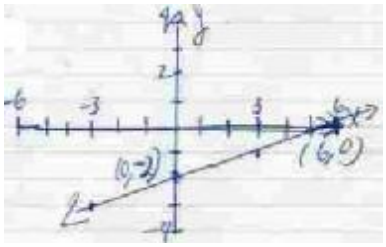
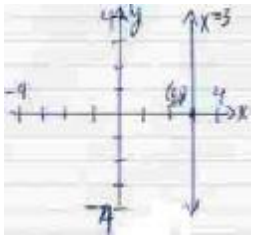
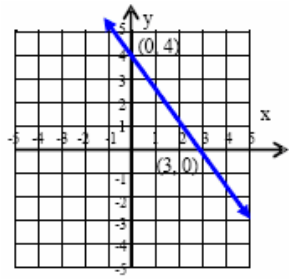
1. $y = 3x + 3$

2. $y = -\frac{2}{7}x - 6$

3. 

4. 

5. 

6. (2, 3)

7. $\left(\frac{2}{5}, -\frac{4}{5}\right)$

8. $2 \pm 2\sqrt{3}$; or $2 - 2\sqrt{3},\ 2 + 2\sqrt{3}$

9. $\frac{-1 \pm \sqrt{19}}{6} = \frac{-1}{6} \pm \frac{\sqrt{19}}{6}$; or $\frac{-1}{6} - \frac{\sqrt{19}}{6},\ \frac{-1}{6} + \frac{\sqrt{19}}{6}$

10. The length of the garden is 7 ft and the width is 5 ft.

11. You need at least a 60 on the final to average at least 70.

12. Al would take $3\frac{1}{3}$ days to build the grill alone.

13. a) $y = -\frac{13}{5}x + 169$

b) On average, a person in the United States spent 153.4 hours per year reading newspapers in the year 2000.

14. The frequency of an 18-in. string would be 336 cycles/sec.

15. 100 adults and 182 children attended the play.

16. 12 gal of a 45% disinfectant solution must be mixed with 8 gal of a 30% disinfectant solution to produce 20 gal of a 39% disinfectant solution.

17. The boat's speed would be 6 m.p.h. in still water, and the current's speed is 2 m.p.h.

18. The kite is 85 feet high.

19. It will take $\frac{11\sqrt{15}}{4}$ sec. ≈ 10.651 sec. for an object to fall from the top of the CN Tower in Toronto.

20. The base is $\frac{-3 + \sqrt{233}}{2}$ ft ≈ 6.132 ft and the height is $\frac{3 + \sqrt{233}}{4}$ ft ≈ 9.132 ft.

21. –3

22. False

23. $\frac{1}{x^{7/4}}$

24. 1

25. False

26. $2(x - 1)^2$

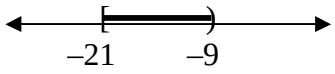
27. $(5t + m)(5t - m)$

28. 

Interval Notation: $(3, \infty)$

29. 

Interval Notation: $[2, \infty)$

30. 

Interval Notation: $[-21, -9)$

31. $f(-3) = 15$

32. $f(0)$ is not real; $f(11) = 3$

33. Domain: {-5, 5, 8}; Range: {1, 2}; Not a function

34. Not a function

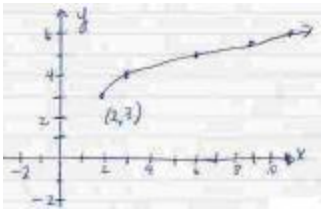
35. False, not a function, fails the vertical line test

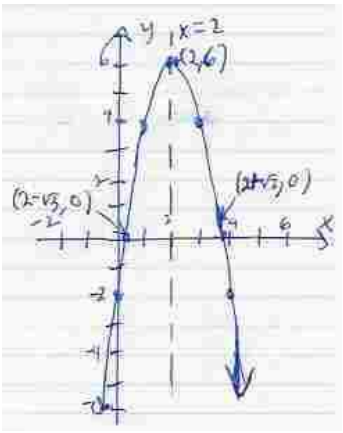
36. (Set-Builder Notation) $\{x \mid x \neq 10 \text{ and } x \neq -1\}$ (for future reference: Interval Notation would be: $(-\infty, -1) \cup (-1, 10) \cup (10, \infty)$)

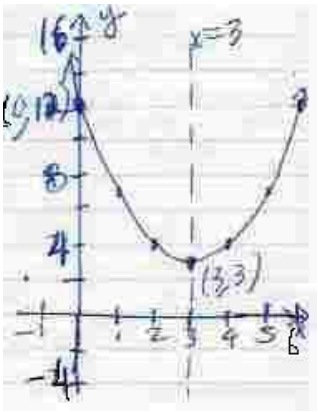
37. Domain: $[2, \infty)$; Range: $[3, \infty)$

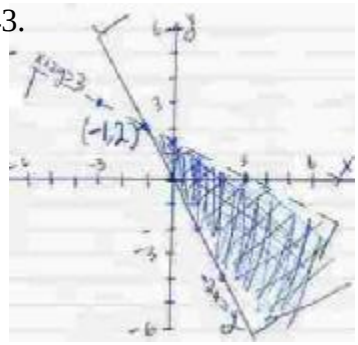
38. Domain: $(-\infty, \infty)$; Range: $[3, \infty)$

39. Domain: $[-2, 4]$; Range: $[-3, 3]$

40. 

41. 

42. 

43. 

44. $13|x^5|$

45. $49\sqrt{2}$

46. $\dfrac{4\sqrt{6}+9}{3}$

47. $\dfrac{x\sqrt[3]{147xy}}{7y}$

48. $-5-2\sqrt{6}$

49. Solutions: 5, –1

50. $2\pm\sqrt{3}$ or
$2-\sqrt{3},\ 2+\sqrt{3}$

51. $3\pm i\sqrt{3}$; or
$3-i\sqrt{3},\ 3+i\sqrt{3}$

52. 3, 0

53. .0625

54. 1.25

55. TI-82's:
ERR: DOMAIN
1:Goto
2:Quit

TI-3/84's:
ERR: NONREAL ANS
1:Quit
2:Goto

56. –9.898979486

57. –9.898979486

58. 16

59. TI-82's:
ERR: DIVIDE BY 0
1:Goto
2:Quit

TI-83/84's:
ERR: DIVIDE BY 0
1:Quit
2:Goto

60.–66. a) TI-82 or TI-83 or TI- 84 or TI-83 plus or TI-84 plus

60. b) Y= (1 ÷ 3) XTΘ – 3
(will graph correctly on TI-83/84 w/o ( ), but order is not as clear)

60.-66.
c) ZOOM
6: ZStandard
d) 2nd - GRAPH
(=TABLE)

61. b) Y= (-) 2

62. b) Y= ((-) 4 ÷ 3) XTΘ + 4

63. b) Y= (-) 2 (XTΘ – 2) x^2 + 6

64. b) Y= XTΘ x^2 – 6 XTΘ + 1 2

65. b) TI-82:
Y=
2nd – x^2 = √
(XTΘ – 2)
+ 3

b) TI-83/84:
Y=
2nd – x^2 = √(
XTΘ – 2)
+ 3

66. b) TI-82:
Y=
2nd – x^{-1} = ABS
(XTΘ) – 2

b) TI-83/84:
Y=
MATH,
u NUM,
1: abs(
XTΘ – 2

67.–68. a) TI-82 or TI-83
or TI- 84 or TI-83 plus
or TI-84 plus

67. b) Y=

Y_1= 4 XTΘ – 5

Y_2= ((-) 4 ÷
3) XTΘ +
1 7 ÷ 3

67-68
c) 2nd – TRACE = CALC
5: intersect
ENTER
ENTER
(move u or t until
near intersection point)
ENTER

Solution: (2, 3)

68. b) Y=

Y_1= (7 ÷ 4
) XTΘ –
3 ÷ 2

Y_2= 3 XTΘ – 2

Solution: (.4, –.8)

or $\left(\frac{2}{5}, -\frac{4}{5}\right)$

69. $y = \frac{3}{2}x$

70. $y = \frac{3}{2}x$

71. $10i$

72. $\frac{3}{5}+\frac{4}{5}i$

73. $(2x – 3)(2x+ 3)(x + 3)$

74. $(x – y)(x^2 + xy + y^2)$

75. $\frac{30}{11}$

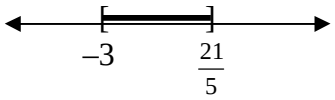
76. No solution, or $\varnothing$

77. –24

78. False. Upon checking, 9
is an undefined value.

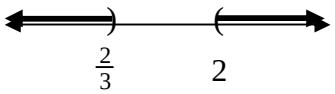
79. 6, $-\frac{8}{3}$

80.



Interval Notation: $\left[-3, \frac{21}{5}\right]$

81.



Interval Notation:
$\left(-\infty, \frac{2}{3}\right) \cup (2, \infty)$

82. No solution, or $\varnothing$

83. $\sqrt[4]{2x}$

84. $\sqrt[6]{125r^3s^2}$

85. b) (2, 6)
c) (0, –2)
d) (.268, 0), (3.732, 0)
f) Domain: (–∞, ∞)
Range: (–∞, 6]

86. a) TI-82 or TI-83
or TI- 84 or TI-83 plus
or TI-84 plus
d) (–2, 3)
e) (0, –1.586)
f) (7, 0)
g) Domain: [–2, ∞)
Range: [3, ∞)

87. $\frac{2(x+5)}{x(x+1)}$

88. $\frac{-5x+25}{(x+3)(x-3)}$
or $\frac{5(5-x)}{(x+3)(x-3)}$

89. $\frac{z}{z+5}$

90. b – a