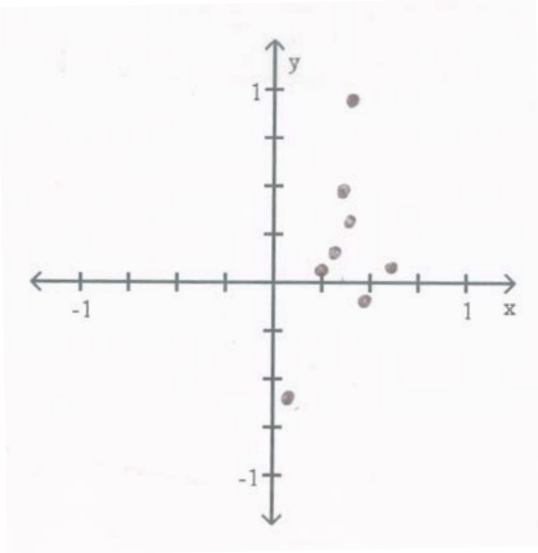


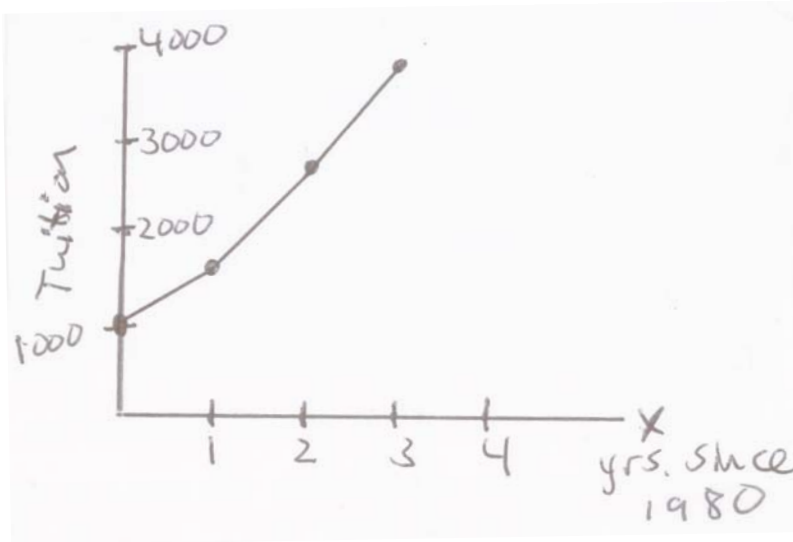
## Math 120 Final Exam Review Answers

1. A      2. 292.3      3. 31,665 mph      4. C

5.



6.



7.  $\sqrt{30}$       8. C      9. A      10.  $f(x) = 8x$

11. B      12. -2      13. B      14. 5.33

15.  $2x+h-4$       16. A      17.  $m = -2$      $y$ -int 1     $x$ -int  $\frac{1}{2}$

18. A      19.  $C(x) = 26x + 30$       20.  $y = 1.07x + 67.3$

21.  $y = -\frac{5}{6}x + \frac{9}{2}$     22.  $y = 6$     23. C    24. C    25. C

26. 80; -576    27. (i) 675    (ii)  $y - 1500 = 675(x - 1982)$   
or  
 $y - 2850 = 675(x - 1984)$

28. The average dollars/year spent on entertainment

29.  $-\frac{11}{5}$     30. A    31. 15

32.  $f(x) = x - .25x$  or  $f(x) = .75x$ ; \$79.28    33. D

34.  $(-\infty, 5)$     35.  $\left[-\frac{13}{6}, \frac{4}{3}\right]$     36. D

37. 1994; between 1991 and 1994    38. C    39.  $(-3, 4)$

40.  $f(x) = \frac{1}{2}(x-2)^2 - 2$     41. B    42. 4, -2

43. C    44. A    45. 1.85, -0.18    46. C

47. degree 4; turning pts  $(-3, -15.5)$ ,  $(0, 0)$ ,  $(2, -5)$ ;  $x$ -ints. -4.2, 0, 2.8  
-15.5 is local and absolute min.; 0 is local max.; -5 is local min.

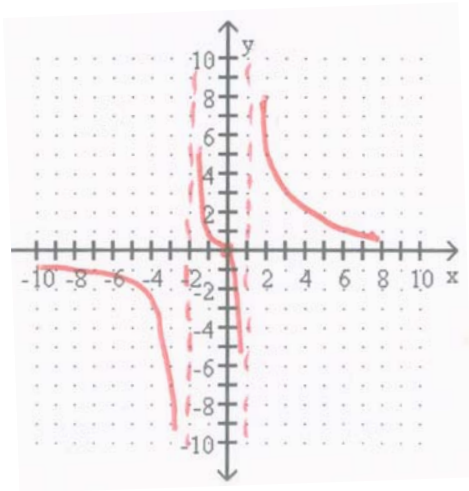
48. A    49. C    50. cubic    51.  $f(x) = (x-3)^2(x-1)(x+3)$

52. C    53.  $f(x) = 2\left(x - \frac{1}{2}\right)(x-1)(x+1)(x+2)$     54.  $x = 0, 5, -5$

55. A    56. July 12    57. B    58. B

59.  $x = 2, x = -2$     60.  $y = 0$     61.  $y = 3$

62.



63.  $f(x) = \frac{-3x^2}{(x-5)(x+7)}$

64.  $x = -3, x = 2$       65. 2.63 hr

(Answers can vary)

66. A

67. A

68. -6

69. C

70.  $g(x) = 4x + 4; f(x) = \frac{1}{\sqrt{x}}$

71. C

72. C

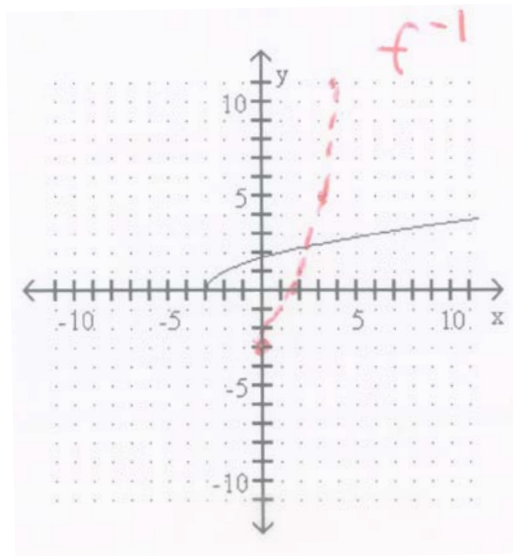
73. A

OR

$g(x) = \sqrt{4x+4}; f(x) = \frac{1}{x}$

74.  $f^{-1}(x) = \sqrt[3]{\frac{x-7}{4}}$

75.



76. C      77. D      78. B      79. C      80.  $f(x) = 4 \cdot (0.9)^x$

81. 42.43 yr      82. B      83. B      84. C      85. B

86.  $x = \log 224 \approx 2.35$       87.  $x = e^{16/3} \approx 207.13$       88. C

89. A      90. C      91. 1.7485      92. A      93. D

94. 7016.0      95. 1994      96. B      97. logistic

$$f(x) = \frac{6.00}{1 + 433.85e^{-2.02x}}$$