Preview

Solutions are at http://www2.math.uic.edu/~lewis/math165/maple/samplefinal2008.mw.short.pdf

4. . Find the second partial f_xy given f (x, y) = 5x e^(5xy) + y log(2x + 9y)
TYPESETTING error. Must reinterpret problem! () missing. log means ln.
Correct answer to problem with () is D

7. Let f (x) =10*x^9 - 180 * ln(x) , for x > 0. Find the minimum value of f for x > 0.
Find the critical number and use second derivative test.

8. See Example 4.4.3 page 336.
A Method: We actually want to know when the relative rate of return (or percentage rate of return) of the two methods of investment are =.

12. Best to use ln(((ln(x^2)))^3) = 3 ln (2 ln(x)) = 3 ln 2 + 3 ln(ln(x))

13. Here "total monthly expenditure" means the usual revenue.

14. Good practice

17. log_2(x) is the * s.t. 2^* = x.

20. Notice x =10 is a vertical asymptote.

23. P' is INCreasing on [0,3] and achieves MAX at t=3., MIN at t=0. |P''(t)| is MAX at t = 0. Answer A

24. Check the critical numbers and the endpoints.
Careful: MAX value of f(x) is requested; graph shows f(0) = f(1) = 0 and for 0 < x < 1, f(x) <0.

27. Find the elasticity n of the demand function . Recall price elasticity of demand is E(p)= (p/q)(dq/dp).

36. NO CORRECT ANSWER. I got 198 meters.

38. NO CORRECT ANSWER. I got $2.41.

40 NO CORRECT ANSWER. I got 519

42. NO CORRECT ANSWER. I got $7782.68

46. Good Problem!

48. Recall DISC:= f_xx * f_yy -f_xy * f_xy;

51. NO CORRECT ANSWER Minute 4: t from 3 to 4; End of minute 4: t = 4.. I got 322 meters.

52. Just multiply through and use the power rule NOT a SUBSTITUTION problem

57. About UNITS

60 NOT IN 2009 a good problem anyway (JL)

61 NO CORRECT ANSWER. I got 2337.44

63.Good problem but NOT IN 2009

66. Construct the profit function P and us dP = P_x * dx + P_y * dy

69. use dV = P_R * dR + P_H * dH; dH = 0.

70. Marginal Analysis again.

Sunday, April 26, 2009 10:41:41 AM CDT

OK