Use the following list of questions as a quide in your review of material of Math 10A:

- *The exam is on Monday, 03/14, 8:00 am – 11:00 am.*
- *In the exam, you have to show every step of your calculation.*
- *A cheating will cause a serious consequence even for your whole life.*

(1) What are the partial derivatives?
(2) What is a continuous function?
(3) What is the inner product? What is the length of a vector?
(4) What is a differentiable function?
(5) What is a tangent plane?
(6) What is a derivative matrix?
(7) What is the chain rule?
(8) What are gradients and directional derivatives?
(9) What is an implicit function?
(10) What are second order partial derivatives?
(11) What is a Taylor series?
(12) What are maxima and minima? What is a critical point?
(13) What is a 2×2 determinant?
(14) What is the second derivative test?
(15) What is a constrained extrema?
(16) What is the Lagrange multiplier? What is a constrained critical point?
(17) What is the acceleration?
(18) What is a 3×3 determinant? What is the cross product?
(19) What is the arc length of a curve?
(20) What is a vector field?
(21) What is the divergence?
(22) What is the curl?

Review Problems:

§**2.2:** 9, 11, 28, 29, 31, 37, 40. §**2.3:** 2, 4, 6, 8, 10, 13, 15. 18, 22, 28. §**2.4:** 10, 12, 14, 16, 18. §**2.5:** 2, 4, 6, 18, 20. §**2.6:** 2, 4, 6, 8, 10, 16, 18. §**3.1:** 1, 3, 8, 10, 15, 17. §**3.2:** 1, 3, 5, 14, 16. §**3.3:** 2, 4, 6, 8, 17, 20. §**3.4:** 2, 4, 8, 10, 14, 15. §**4.1:** 8, 10, 15, 16, 20, 23. §**4.2:** 2, 4, 6, 38, 40, 42. §**4.3:** 3, 5, 7, 17, 19.