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Parametric Update: Thu Dec 1 06:23:19 MST 2005

Power-Series Update: Thu Dec 1 09:29:04 MST 2005

English-Usage and Spelling Update: Thu Dec 1 12:02:17 MST 2005

Final-Form and No-Calculator Update: Thu Dec 1 20:45:55 MST 2005

/m175.fa05/handouts175/t4\_175\_C02/review\_suggestions\_4\_tex

- 1 This list is now in final form, content-wise.
- 2 Test #4 is  

Friday  
12/2/05.
- 3 Let's **NOT** have a calculator part on the test. Save it for the final.
- 4 The test will cover the material of Assignments #22 – #28, roughly, that is, sections 11.7 - 11.11 and 10.1-10.2.
- 5 The odd-numbered 11.7 problems are still fair game. And 37 and 38.
- 6 In the old-test collection
  - (i) Test #3, 4/12/02: problems 2, 3, 4, 5
  - (ii) Test #4, 5/3/02: problems 1, 2, 3, 4
  - (iii) Final, 5/13/02: problem 6, 7 (**f** is not shown).
- 7 Parametric Equations:
  - (a) Trace a parametrically-defined curve from its equations. Show the traversal direction.
  - (b) Trace a parametrically-defined curve from graphs of its  $\mathbf{x}(t)$  and  $\mathbf{y}(t)$  functions. Show the traversal direction.
  - (c) “Eliminate the parameter” to find an  $\mathbf{xy}$ -equation for the path.
  - (d) Compute the slope of a parametrically-defined curve.
  - (e) Compute the concavity of a parametrically-defined curve.
  - (f) Compute the length of an arc of a parametrically-defined curve.
- 8 Some **Well-Known Power Series**:

- (i)  $e^x$  about  $x = 0$
- (ii)  $\cosh(x)$  about  $x = 0$
- (iii)  $\cos(x)$  about  $x = 0$
- (iv)  $\sinh(x)$  about  $x = 0$
- (v)  $\sin(x)$  about  $x = 0$
- (vi)  $\arctan(x)$  about  $x = 0$
- (vii)  $\ln(x)$  about  $x = 1$

**9** Finding Taylor Series for Functions:

- (a) by the Taylor-Series  $n^{\text{th}}$ -term formula.
- (b) by variations on the Geometric Series, where “variations” includes
  - (i) term-by-term integration
  - (ii) term-by-term differentiation
  - (iii) substitution
  - (iv) multiplying through by a power of  $x$  or  $(x - A)$ .
- (c) by variations on other well-known power series.
- (d) by the Binomial-Series trick