

**Fall 2003 Midterm II answers**

1. a. NOTE: This topic is not included in Math141 SP05 Midterm II.
2. b
3. d
4. b
5. b
6. b
7. (I) converges; (II) converges; (III) diverges.
8. a) converges to 0; b) converges to  $\frac{2}{3}$ ; c) diverges.
9. The integral converges to  $\frac{3}{2} - \frac{3}{2^{1/3}}$ . One has to break up the integral at  $x = 2$ .
10. The series converges by the Integral Test.
11. The series diverges by the Limit Comparison Test with  $\sum \frac{1}{n}$  (or  $\sum \frac{2}{n}$ ).