

**18.01A Problem Set 2a**  
(due Thurs., Sep. 27 (with pset 2b))

**Part I (20 points)**

TB = Simmons; SN = 18.01A Supplementary Notes (all have solutions) The problems marked 'other' are not to be handed in.

**Class 5** (Thurs., Sep. 13 **pset 1 due**) Second fundamental theorem,  $\ln x$  as an integral.

Read: SN: PI, FT.

Hand in: 3D/1, 4bc, 7ab; 3E/1, 2a, 4, 6c; 3D/3 (for part (d) use result in 3E/5).

Others: 3D/5, 8a.

**Class 6** (Mon., Sep. 17) Geometric applications: volumes, area, arclength.

Read: TB: 7.1-7.6 (7.4 to top of page 233, 7.5 lightly).

Hand in: 7.3/13; 4A/1b, 2; 4B/1de, 2eg, 7; 4C/1a, 2, 3; 4F/2, 3; 4G/1

Redo 4B/1d rotating around the line  $y = -1$ .

Others: 4A/4; 4B/5; 4J/3

**Class 7** (Tues., Sep. 18) More applications: work, average value.

Read: TB: 7.7 to middle p. 247, SN: AV.

Hand in: 7.7/5, 6, 15 (solutions below); 4D/3, 5, 8.

Others: 7.7/3, 21 (solutions below); 4D/1, 2, 6.

**Continuation:** (Wed., Sep. 19) Discussion, review and catch up.

**Exam:** (Thurs., Sep. 20) **Exam 1** (covers 1-7)

**Class 8** (Tues., Sep. 25) Integration: substitution, trigonometric integrals, completing the square.

Read: TB: 10.2, 10.3, 10.4.

**Solutions to textbook problems will be posted separately**