This week on the problem set we will see examples of triple integrals. Often the most difficult part of these problems will be the setup. Once we have an iterated integral, that calculation is "easy". We will also have questions on polar coordinates and integration in polar coordinates. The last few questions deal with coordinate change maps and Jacobians.

Note that the references to the textbook are for the 4^{th} edition, *late transcendentals* version. Any differences between the 3^{rd} and 4^{th} editions is noted in parentheses.

1. From 16.3 in the textbook: 3, 5, 6, 7, 9, 12, 13, 14, 15, 20, 23, 33 (question 33 is the same as 31 in the 3^{rd} ed).
2. From 12.3 in the textbook: 9, 13, 14, 17, 21, 22, 23, 32 (Use the following substitutions in the 3^{rd} ed: $9 \mapsto 8$, $13 \mapsto 11$, $14 \mapsto 12$, $17 \mapsto 15$, $21 \mapsto 19$, $22 \mapsto 20$, $23 \mapsto 21$, $32 \mapsto 30$).
3. From 16.4 in the textbook: 1, 5, 10, 13, 21, 24, 25, 28, 31, 37, 42, 43, 45, 48, 53, 57^*. (questions are identical in the 3^{rd} ed).