

1. Diagonalization of  $2 \times 2$  symmetric matrices: Quiz 6a, Exam 2a(1), Exam 2b(1); CAR, Chapter 3, p.1-7, 2.
2. SVD: Quiz 6b, Exam 2a(1), CAR, Chapter 3, p.1-44, 1.
3. Integrals of functions of two and three variables (in rectangular coordinates): Exam 2a(2); HW from SHE, Sections 17.3 and 17.7.
4. Integrals in polar coordinates: Quiz 7a, Exam 2b(2), Exam 2a(3); HW from SHE, Sections 17.4.
5. Applications (area, volume, centroid, mass): Quiz8a; SHE, Section 17.3, 35, 46; SHE, Section 17.7, 33, 34, 40.
6. Arbitrary change of coordinates (Jacobian matrix): Exam 2b(3), SHE, Section 17.10, 13-18.