

Study Guide for Unit 5

Important definitions. You should know the meanings of the following terms. (All of them are important, so none of them will be bold-faced.)

Term	Lecture	Reference
Inverse function	Lecture 24	§9.5 p. 317
Hyperbolic function	Lecture 24	§9.7 p. 325
Partial fraction decomposition	Lecture 26	§10.6 p. 351
Reduction formula	Lecture 27	§10.7 p. 359

Skills checklist. Be able to do each of the following.

1. Compute the angle of the tangent line to a polar curve. This is a carry-over from the previous unit.
2. Compute the area of a region bounded by polar curves. This is a carry-over from the previous unit.
3. Compute antiderivatives using inverse trigonometric substitution.
4. Compute antiderivatives using inverse hyperbolic substitution.
5. Use the Heaviside cover-up method to compute the partial fraction decomposition of a fraction of polynomials.
6. Compute antiderivatives using integration-by-parts.
7. Use integration-by-parts to find reduction formulas for integrals.