

Honors Calculus

Transcendental Functions

The list below contains the specific *learning targets* for the unit on transcendental functions. Before the unit test, you should be able to place a check next to each statement as being true.

- I can describe the relationship between the derivatives of inverse functions.
- I can evaluate the derivative of an inverse function.
- I can find derivatives involving logarithmic functions.
- I can use logarithms to evaluate integrals in the form $\int (1/u)du$.
- I can find derivatives and integrals involving exponential functions.
- I can find derivatives and integrals involving inverse trigonometric functions.

Textbook Assignments

The exercises below are from *Calculus of a Single Variable, 7th edition*, by Larson, Hostetler, and Edwards. These specific problems are the bare minimum that should be completed after each lesson, but you are encouraged to attempt more if needed.

- 5.1 Derivatives of Logarithmic Functions **pg 321: 41, 47, 49, 51, 53, 55, 63, 71, 75, 73, 79**
- 5.2 Integration Involving Logarithms **pg 330: 3, 5, 7, 9, 19, 21, 37, 43, 47, 67**
- 5.2 Trigonometric Integrals **pg 330: 29-36, 39, 49, 69**
- 5.3 Inverse Functions **pg 338: 9-16, 23, 25, 27, 35, 39, 49, 83, 85**
- 5.3 Derivatives of Inverse Functions **pg 338: 71-81 (odd)**
- 5.4 Derivatives of Exponential Functions **pg 347: 37, 41, 43, 45, 47, 49, 55, 59, 65, 69, 78**
- 5.4 Integration Involving Exponential Functions **pg 347: 89, 91, 93, 95, 105, 109, 111, 115**
- 5.5 Bases Other Than e **pg 357: 43, 45, 49, 51, 61, 63, 65, 67**
- 5.8 Derivatives of Inverse Trigonometric Functions **pg 386: 41, 43, 45, 47, 48, 65, 71**
- 5.9 Integrals Involving Inverse Trigonometric Functions **pg 393: 1, 3, 5, 7, 21, 27, 28, 56**