

Mathematics 1110H – Calculus I: Limits, Derivatives, and Integrals

TRENT UNIVERSITY, Summer 2025 (S62)

Quiz #8 – Integration

*Due on Thursday, 17 July.**

1. Compute the indefinite integral $\int \frac{e^{2x}}{\sqrt{e^x + 1}} dx$ by hand, showing (at least) all the major steps. [5]

Sing me a song of the hydrogen light
Three degrees Kelvin illumine the night
Three degrees Kelvin, the infrared sky
Colors too deep for the unaided eye

Sing me a song of the hydrogen band
Whispering low since the cosmos began
Whispering low as the white light shifts red
Wavefronts of hydrogen sweeping ahead

Sing me a song of the hydrogen wall
Vector me out to that light bounding all
Vector me out in that glory to dwell
End of the universe, cosmic eggshell.

*By John M. Ford, from his novel *Princes of the Air*.*

* You should submit your solutions via Blackboard's Assignments module, preferably as a single pdf. If submission via Blackboard fails, please submit your work to your instructor by email or on paper. You may work together and look things up, so long as you write up your submission by yourself and give due credit to your collaborators and any sources you actually used.