

Mathematics 1110H (Section B) – Calculus I: Limits, Derivatives, and Integrals
TRENT UNIVERSITY, Fall 2023

Quiz #10
Some Indefinite Integrals

Due just before midnight on Wednesday, 29 November.*

REMINDER. While you are allowed to work together and look things up when doing the quizzes and assignments, your submission should be written up entirely by yourself, giving credit to any collaborators or sources that you ended up actually using. *Please show all your steps and simplify your answers as far as practical.*

Work out each of the following indefinite integrals.

1. $\int \frac{x}{\sqrt{9-x^2}} dx.$ [1]

2. $\int 16x^3 \ln(x) dx.$ [1]

3. $\int \tan(x) dx.$ [1]

4. $\int 6 \sin(\cos^2(x)) \cos(x) \sin(x) dx.$ [1]

5. $\int x^2 \sinh(x) dx.$ [1]

Hint: This is the hyperbolic function $\sinh(x)$, not the trigonometric function $\sin(x)$. Recall that $\sinh(x)$ and $\cosh(x)$ are each other's derivatives, without any negative signs.

* 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.