

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

TRENT UNIVERSITY, Summer 2026 (S62)

Quiz #10

*Due just before midnight on Friday, 24 July.**

Consider the region below the line $y = 3$ and above the line $y = 3 - x$, for $0 \leq x \leq 3$.

1. Sketch this region and find its area. [1.5]
2. Sketch the solid obtained by revolving this region about the line $x = 0$ and find its volume. [3.5]

Number Man

(for the ghost of Johann Sebastian Bach)

He was born to wonder about numbers.

He balanced fives against tens
and made them sleep together
and love each other.

He took sixes and sevens
and set them wrangling and fighting
over raw bones.

He woke up twos and fours
out of baby sleep
and touched them back to sleep.

He managed eights and nines,
gave them prophet beards,
marched them into mists and mountains.

He added all the numbers he knew,
multiplied them by new-found numbers
and called it a prayer of Numbers.

For each of a million cipher silences
he dug up a mate number
for a candle light in the dark.

He knew love numbers, luck numbers,
how the sea and the stars
are made and held by numbers.

Carl Sandburg

* You should submit your solutions via Blackboard's Assignments module, preferably as a single pdf. If that fails, please submit directly to the instructor on paper or via email to sbilaniuk@trentu.ca. You may work with others, use whatever tools you like, and look things up, so long as you write up your submission by yourself and give due credit to your collaborators and any tools or sources you actually used.