Mathematics 2260H – Euclidean Geometry TRENT UNIVERSITY, Winter 2025 Optional Extra Assignment #τ Proof by Poem? Due on Monday, 24 February.*

1. Write a poem stating and proving a geometrical theorem of your choice. *[10] Hint:* Here is an example from a couple of decades ago.

Euclid I-6

Given a triangle, Points A, B, C,Where two of the angles Completely agree, Are the opposite sides In agreement aussi? Assume for the moment That this isn't true, Angles B and C equal, But their sides don't too, Then one must be bigger. -AB will do. From AB cut DB, The same as AC, Then connect C and D, To make CD - and see, That by Euclid I-4 There's a congruency! ABC and DBC, Cannot be the same, Euclid's fifth notion Is the thing to blame. Thus AB and AC, Are proven the same!

Kelly Moncrief

For another example, the Romantic poet Samuel Taylor Coleridge, best known nowadays for his poems *The Rime of the Ancient Mariner* and *Kubla Khan*, wrote a poem in 1791 stating and proving Proposition I-1 in Euclid's *Elements*. You can find it online if you look, *e.g.* at: https://genius.com/Samuel-taylor-coleridge-a-mathematicalproblem-annotated

^{*} Please submit your solutions, preferably as a single pdf, via Blackboard's Assignments module. If that fails, please submit them to the instructor on paper or via email to sbilaniuk@trentu.ca as soon as you can.