Mathematics 1110H (Section B) – Calculus I: Limits, Derivatives, and Integrals
Trent University, Fall 2023
~~Mini-Assignment~~ Quiz #1
Jack and Jill Hiked on the Hill
Due* just before midnight on Wednesday, 13 September.

NOTE. The weekly quizzes will normally be based on the material covered in lecture in the previous week. This first quiz therefore ought to be based on the contents of a single lecture, part of which had to do with the organization of the course rather than its content. That's too little to test, so this quiz instead asks you to solve an arithmetical puzzle. Have fun!

Don't forget that while you are allowed to work together and look things up, what you submit should be written up entirely by yourself, and give due credit to any collaborators or sources that you ended up actually using.

Jack and Jill go hiking on a trail on the crest of a ridge that has a mix of flat and sloped ground. They leave their starting point at 9:00 a.m., hike to a point on the ridge, have a half-hour lunch there, and then return by exactly the same path they followed going out (in reverse, of course :-), coming back to the starting point at 3:30 p.m. on the same day. For simplicity in answering the questions below, we will assume that Jill and Jack always walk at 2 *km/h* on level ground, 1.25 *km/h* going uphill, and 5 *km/h* going downhill.

1. How many kilometers, along the trail followed by Jill and Jack, is it from the starting point to the point where they had lunch? *[2.5]*

2. Determine, as accurately as you can, when Jack and Jill had lunch. *[2.5]*