

Mathematics 2260H – Geometry I: Euclidean geometry

TRENT UNIVERSITY, Fall 2018

Assignment #12

Round trip?

Due on Wednesday, 5 December.

Here's a small variation on an old riddle:

Egg the Explorer faces due south and walks one mile in that direction, then turns due east and walks one mile in that direction, then turns due north and walks one mile in that direction, which last brings Egg back to the original starting point. Where is Egg?

1. There is at least one possible starting point for Egg on the surface of planet Earth. Find one and explain why it works. [5]
2. How many possible starting points for Egg are there on the surface of planet Earth? Explain why. [5]

NOTE. For the sake of this assignment, you may assume that the planet Earth is a perfect sphere. :-)