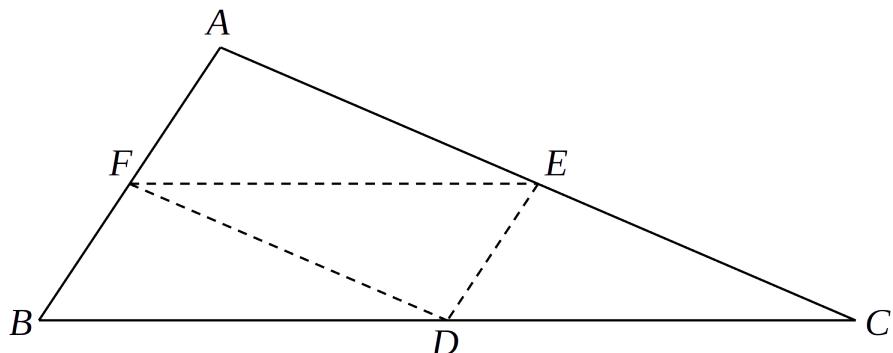


**Mathematics 2260H – Euclidean Geometry**  
TRENT UNIVERSITY, Winter 2026

**Assignment #2**  
**Something Similar**  
*Due on Friday, 23 January.\**

Please read, or at least skim, through the handout *Similar Triangles and Similarity Criteria* before doing this assignment. In particular, note the definition of similarity and the criteria for establishing the similarity of triangles. For this assignment you may freely use the fact that the interior angles of any triangle add up to two right angles, even though this fact is equivalent to the parallel postulate.



1. Suppose that  $D$ ,  $E$ , and  $F$  are the midpoints of the sides  $BC$ ,  $AC$ , and  $AB$ , respectively, of  $\triangle ABC$ . Show that  $\triangle DEF \sim \triangle ABC$ . [10]

“Parallel lines  
meet at infinity,”  
Euclid repeatedly,  
heatedly urged,  
Until he died and  
so reached that vicinity—  
In it he found that the  
damn things diverged.

*Piet Hein*

---

\* 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](mailto:sbilaniuk@trentu.ca) as soon as you can.