

Mathematics 2260H – Geometry I: Euclidean geometry

TRENT UNIVERSITY, Winter 2011

Problem Set #4

Angles and bisection

Due on Monday, 7 February, 2011.

1. (Exercises 2.3K #1) Prove that if an angle's bisector is extended into the vertically opposite angle, then it bisects the latter too. [6]
2. (Exercises 2.3K #4) Prove that if a quadrilateral's diagonals bisect each other, then the quadrilateral's opposite sides are equal to each other and so are its opposite angles. [8]
3. (Exercises 2.3M #3) Prove that the angles at the base of an isosceles triangle are acute. [6]