

MA 330.001 (Alberto Corso) History of Mathematics Quiz # 3	Name: _____ _____	pts: /30
--	----------------------	-----------------

1. **Proposition 5:** In isosceles triangles the angles at the base equal one another, and, if the equal straight lines are produced further, then the angles under the base equal one another.

Proof:

pts: /6

2. **Proposition 16:** In any triangle, if one of the sides is produced, then the exterior angle is greater than either of the interior and opposite angles.

Proof:

pts: /6

3. **Proposition 32:** In any triangle, if one of the sides is produced, then the exterior angle equals the sum of the two interior and opposite angles, and the sum of the three interior angles of the triangle equals two right angles.

Proof:

pts: /6

4. **Proposition 35:** Parallelograms which are on the same base and in the same parallels equal one another.

Proof:

pts: /6

5. **Proposition 47:** In right-angled triangles the square on the side opposite the right angle equals the sum of the squares on the sides containing the right angle.

Proof:

pts: /6

6. **Bonus:** Consider an isosceles triangle ABC . Produce further the side AB and choose on this extension a point D such that the segments DB and BC have the same length. Prove that the angle \widehat{ADC} is $\frac{1}{3}$ the angle \widehat{ACD} .

Proof:

pts: /5
