

MAT4010 Pretest Geometry

- 0.1. Prove the formula for the area of a triangle.
- 0.2. Prove the formula for the area of a trapezoid.
- 0.3. What do we call a quadrilateral with four equal sides?
- 0.4. Is a square also a rectangle?
- 0.5. Prove that the sum of the angles of a triangle is 180° .
- 0.6. What is the sum of the angles of an n -gon?
- 0.7. Explain why $3 < \pi < 4$.
- 0.8. Explain informally why the area of a circle of radius r is $A(r) = \pi r^2$?
- 0.9. Why is the derivative of the area of a circle of radius r , $A(r) = \pi r^2$, equal to the circumference, $C(r) = 2\pi r$?
- 0.10. Can you say something that can make students remember the formulas for the volume of the sphere of radius r , $V(r) = 4/3\pi r^3$, and the surface area of a sphere, $4\pi r^2$?
- 0.11. Why can you say that a triangle is a two-dimensional pyramid?
- 0.12. A student remembers that the formula for the volume of a pyramid is the area of the base times the height divided by a number, but cannot remember what number to divide by. How can you help?