



Surname: Name:

Group: Date:

Question	1	2	3	Total
Points	2.5	2.5	2	7
Grade				

Answer the questions in the spaces provided. If you run out of room for an answer, continue on the back of the page.

1. (2.5 points) Is it true that $x^n + y^n = z^n$ if (x, y, z) and n are positive integers?. Explain.

2. (2.5 points) Prove that the real part of all non-trivial zeros of the function $\zeta(z)$ is $\frac{1}{2}$.

3. (2 points) Compute

$$\int_0^\infty \frac{\sin(x)}{x}$$