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

Name and section: _____

Instructors name: _____

1. (20 points) Which of these guys published a paper on Browninan Motion
   - ◯ Stephen Hawking
   - ◯ Albert Einstein
   - ◯ Isaac Newton
   - ◯ I don't know

2. (10 points) Is it true that $x^n + y^n = z^n$ if x, y, z and n are positive integers?. Explain.

3. (10 points) Prove that the real part of all non-trivial zeros of the function $\zeta(z)$ is $\frac{1}{2}$

4. (10 points) Prove $\begin{pmatrix} -24 & 35 & 35 \end{pmatrix} \begin{pmatrix} -5 & -6 & -2 \\ 3 & 3 & 1 \\ -6 & -7 & -2 \end{pmatrix} = \begin{pmatrix} 15 & 4 & 13 \end{pmatrix}$

5. (10 points (bonus)) what is x when y equals 5: $y = \frac{1}{2} * x$

Question:	1	2	3	4	5	Total
Points:	20	10	10	10	0	50
Bonus Points:	0	0	0	0	10	10
Score:						