

**MATH1009 – Quiz 1**  
**Wednesday, October 19, 2016**  
**Instructor: Abuzer Yakaryılmaz**

**Name and surname:**

**Student number:**

**Questions**  
(20 minutes)

Consider the following system of linear equations:

$$\begin{array}{rccccccc} x & + & y & + & z & = & 1 \\ 2x & - & y & + & 2z & = & 4 \\ 3x & + & 3y & + & (c^2 - 1)z & = & c + 5 \end{array}$$

1. (10 points) Write down the augmented matrix of this system.
2. (20 points) For which integer value(s) of  $c$ , does the system have no solution?
3. (30 points) For which integer value(s) of  $c$ , does the system have exactly one solution?  
What is the solution set?
4. (40 points) For which integer value(s) of  $c$ , does the system have infinitely many solutions? What is the solution set?