

UNIVERSITY OF MANITOBA

Quiz 6A

COURSE: MATH 1210

DATE & TIME: Mar 22/23/24, 24 Minutes

DURATION: IN LABS

EXAMINER: Borgersen/Kristel

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- [12] 1. Use either Gaussian or Gauss-Jordan elimination to find all real values for  $a$  in which the following system has
- (a) infinitely many solutions,
  - (b) exactly 1 solution,
  - (c) no solutions.

$$\begin{array}{rcrcrcrcrcl} 4x & + & y & + & (2a - 10)z & = & 2a^2 - 4a - 26 \\ 3x & + & y & + & (2a - 10)z & = & 2a^2 - 4a - 27 \\ 3x & + & y & + & (3a - 15)z & = & 3a^2 - 6a - 42 \end{array}$$

(Do not calculate the determinant, and do not use Cramer's rule.)