Quiz 1 :::::::: MTL101

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Sample Question: Find all possible values of $x, y, z \in \mathbb{R}$ such that the following matrix is an RRE matrix $\begin{pmatrix} 1 & x & 0 \\ 0 & y & z \end{pmatrix}$.
Ans: If $y = 1$, then $x = 0$ and $z \in \mathbb{R}$. If $y = 0$, then $x \in \mathbb{R}$ and $z \in \{0, 1\}$.

Question: Find all possible $x, y, a, b, p, q, r \in \mathbb{R}$ such that the following matrix is a row reduced echelon matrix: $\begin{pmatrix} x & 0 & 0 & y & 0 \\ 0 & a & 2 & b & 0 \\ 0 & 0 & p & q & r \end{pmatrix}$

(Both sides can be used to answer. No extra sheets will be provided. Please write the final answer together in a place after you have completed your calculation.)

RW

$\begin{pmatrix} 1 & 0 & 0 & y & 0 \\ 0 & 1 & 2 & b & 0 \\ 0 & 0 & 0 & q & r \end{pmatrix}$

$x = 1$;

↳ $a = 1$

↳ $p = 0$

↳ $q = 1$ then $y, b = 0$ & $r \in \mathbb{R}$.

$q = 0$ then $y, b \in \mathbb{R}$ & $r = \{1, 0\}$

Ans → $x = 1$; $a = 1$; $p = 0$

If $q = 1$ then $y, b = 0$ & $r \in \mathbb{R}$

If $q = 0$ then $y, b \in \mathbb{R}$ & $r = \{1, 0\}$

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