

Watch. Practice. Understand. | Lesson 245

The Heart and Soul of Echelon and Reduce Row Echelon Form Pre Calculus 9.4

Watch the matching video: https://www.youtube.com/watch?v=nvC31_xjBaE

Practice focus: Row reduction and multivariable systems

Original extra practice matched to the listed lesson topic.

Name: _____ Date: _____ Show your reasoning and check units.

01 Solve $x + y = 5$ and $2x - y = 1$ using elimination.

02 Interpret the augmented row $[0,0,0|4]$.

03 Interpret RREF $[[1,0,2|3],[0,1,-1|4]]$ in variables x,y,z .

04 Solve $x + y + z = 6$, $x - y = 0$, and $z = 2$.

Worked answers | Lesson 245

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01 Solve $x + y = 5$ and $2x - y = 1$ using elimination.

Add rows: $3x = 6$, so $x = 2$; $y = 3$. Augmented RREF is $[[1,0,2],[0,1,3]]$.

02 Interpret the augmented row $[0,0,0|4]$.

It represents $0 = 4$, a contradiction; the system has no solution.

03 Interpret RREF $[[1,0,2|3],[0,1,-1|4]]$ in variables x,y,z .

Let $z = t$. Then $x = 3 - 2t$, $y = 4 + t$. Infinitely many solutions.

04 Solve $x + y + z = 6$, $x - y = 0$, and $z = 2$.

$z = 2$ and $x = y$. Then $2x + 2 = 6$ gives $x = y = 2$.