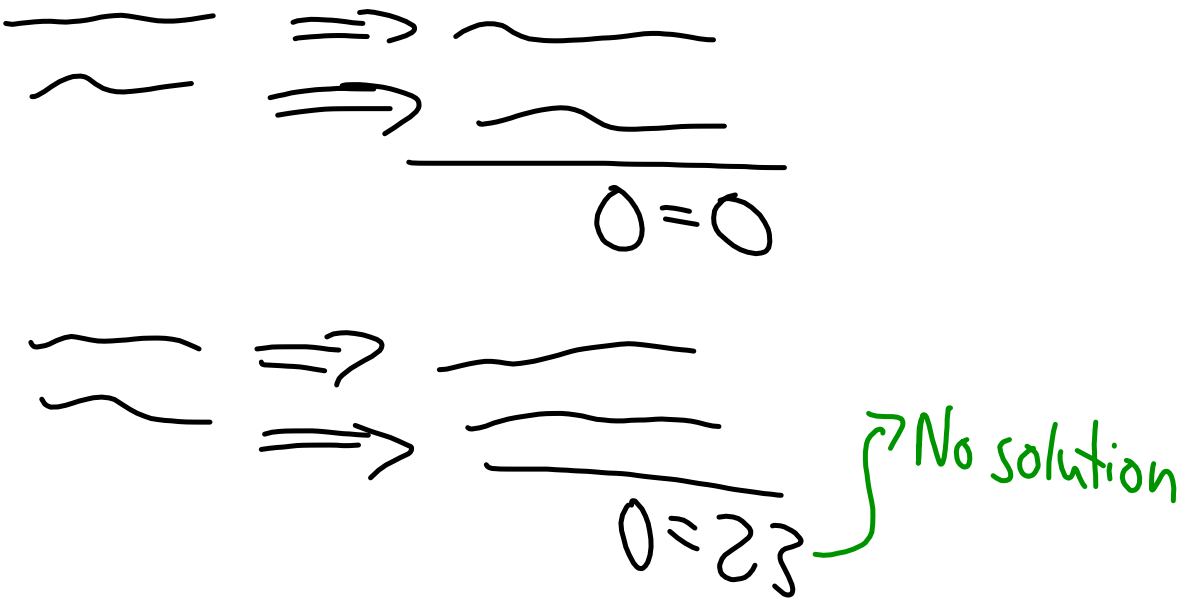
0=0
0=23
No solution

② Rref to solve systems in ②
from class exercises:

$$\begin{bmatrix} 1 & 0 & -1 \\ 0 & 1 & 7 \end{bmatrix} \quad \begin{bmatrix} 1 & 2 & 4 \\ 0 & 0 & 0 \end{bmatrix} \quad \begin{matrix} x & y \\ \end{matrix} \quad \text{no solution} \quad \begin{bmatrix} 1 & 2 & 0 \\ 0 & 0 & 1 \end{bmatrix}$$

$$\begin{bmatrix} 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}$$

$0x+0y=1$

System from (1) "ref's" to

$$\begin{matrix} x & y & z & \\ \left[\begin{matrix} 1 & -2 & 0 & 0 \\ 0 & 0 & 1 & 4 \\ 0 & 0 & 0 & 0 \end{matrix}\right. \end{matrix}$$

x, z are leading variables

y is a free variable (call it t)

$y = t$

$x - 2y = 0$

$x = 2y$

$x = 2t$

$y = t$

$z = 4$

$$\begin{array}{c} x_1\ x_2\ x_3\ x_4\ x_5 \\ \left[\begin{array}{ccccc|c} 1 & 3 & 0 & 0 & 7 & 1 \\ 0 & 0 & 1 & 0 & -5 & 2 \\ 0 & 0 & 0 & 1 & 2 & 3 \\ 0 & 0 & 0 & 0 & 0 & 0 \end{array}\right] \end{array}$$

leading: x_1, x_3, x_4

free: x_2, x_5

$x_4 + 2x_5 = 3$

$x_4 = 3 - 2x_5 = 3 - 2t$

$x_1 = 1 - 3s - 7t$

$x_2 = s$

$x_3 = 2 + 5t$

$x_4 = 3 - 2t$

$x_5 = t$

Turn In: 1.4: 9, 13(b), 15

For each, give

$2x+3y=7$
$x-5y=2$

$\begin{bmatrix} 2 & 3 & 7 \\ 1 & -5 & 2 \end{bmatrix}$

* system, any work getting it
* augmented matrix
* solution, with units if appropriate