

**PRACTICE 2c:** The textbook doesn't have any assignments that go with this lecture, so I've made up an assignment to let you practice doing the elimination steps. Don't worry, you'll get lots more practice later!

Start with the system

$$\begin{array}{rrrrrr} x_1 & + & 2x_2 & + & x_3 & = & 6 \\ 2x_1 & - & 3x_2 & - & 2x_3 & = & 5 \\ -x_1 & - & x_2 & + & 2x_3 & = & 12 \end{array}$$

Perform the following elimination steps IN ORDER:

- (1) Add -2 times the first equation to the second equation
- (2) Add the first equation to the third equation
- (3) Interchange equations 2 and 3
- (4) Add 7 times equation 2 to equation 3
- (5) Multiply equation 3 by 1/17

You should now be ready to do back-substitution. Do the back-substitution steps and find the general solution to the system of equations.