

(1 a.)

$$\underline{1}x + y + z = 48$$

$$\boxed{-x} + 2y + 2z = -24$$

$$2x - 6y + 4z = 12$$

our pivot is I. We want  
to zero out -x. To do this  
we simply add 1st row  
to second row.

$$\begin{array}{rclcl} 1x & + & 1y & + & 1z = 48 \\ + & - & x & + & 2y + 2z = -24 \end{array}$$

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$$0 + 3y + 3z = 24$$

This gets us

$$1x + y + z = 48$$

$$3y + 3z = 24$$

$$- 6y + 4z = 12$$

$$\boxed{2x}$$

(b)

Our goal now is to zero out  $2x$ . Our pivot is

still  $1$ . We want to multiply the first row by  $-2$  and then add row 3:

row 1 multiplied by  $-2$

