Solutions Math 208

Sec 4.1: 17, 46 Sec 4.2: 15, 53

4.1: 17 Using substitution

$y = 2x - 3$

$x + 2y = 14$

$x + 2(2x-3) = 14$

$x + 4x - 6 = 14$

$5x = 20$

$x = 4$

$y = 2(4) - 3 = 5$

4.1: 46 ~~n is a multiple of m, call that multiple A, but c is not Ab.~~

$n = m$

but $c \neq d$

4.2: 15

$$\left[\begin{array}{cc|c} 3 & 5 & 8 \\ 2 & -4 & -7 \end{array}\right]$$

4.2: 53 Find the solution

$$\left[\begin{array}{cc|c} 1 & -2 & 15 \\ 0 & 0 & 0 \end{array}\right]$$

One row is all zeros, so there are infinite solutions.

Since x_2 is arbitrary, let $x_2 = t$. Then

$x_1 - 2t = 15$

$x_1 = 15 + 2t$

Solutions

$$\begin{bmatrix} 15 + 2t \\ t \end{bmatrix}$$