Do Now: #4 from the Solving Multivariable Linear Systems packet

A $x + y + z = 5$

4. B $-4x + 2y - 3z = -9$

C $2x - 3y + 2z = 5$

$X + 1 + z = 5$

(D) $X + z = 4$

$-4X + 2 - 3z = -9$

(E) $-4X - 3z = -11$

$-2A + C$ to eliminate X

$-2X - 2y - 2z = -10$

$2X - 3y + 2z = 5$

$-5y = -5$

$y = 1$

3D + E to eliminate z

$3X + 3z = 12$

$-4X - 3z = -11$

$-X = 1$

$X = -1$

Plug $y = 1$ and $x = -1$ into A

$-1 + 1 + z = 5$

$z = 5$

$(-1, 1, 5)$

From Friday…

A $x + y - 3z = -1$

3. B $y - z = 0$

C $-x + 2y = 1$

A + C to eliminate x

$3y - 3z = 0$

D $y - z = 0$

-B + D

$-y + z = 0$

$y - z = 0$

$0 = 0$

infinitely many solutions

5. A $x + y - 5z = 3$
B $x - 2z = 1$
C $2x - y - z = 0$

A+C to eliminate y

$3x - 6z = 3$

D $x - 2z = 1$

-B + D

$-x + 2z = -1$

$x - 2z = 1$

$0 = 0$

infinite # of solutions

#s 10 and 11 from Practice section

(10) no solution

(11) $(5, -1, -4)$

Homework 02-02

Practice
(Courtesy of Kuta Software)

Solve each system by elimination.

1) $-x - 5y - 5z = 2$
$4x - 5y + 4z = 19$
$x + 5y - z = -20$

$(-2, -3, 3)$

2) $-4x - 5y - z = 18$
$-2x - 5y - 2z = 12$
$-2x + 5y + 2z = 4$

$(-4, 0, -2)$

3) $-x - 5y + z = 17$
$-5x - 5y + 5z = 5$
$2x + 5y - 3z = -10$

$(-1, -4, -4)$

4) $4x + 4y + z = 24$
$2x - 4y + z = 0$
$5x - 4y - 5z = 12$

$(4, 2, 0)$