EQ 1: $7x - 3y + z = -32$
EQ 2: $4x - 5y + 3z = -29$
EQ 3: $3x + 7y - 4z = 15$

Solve this system of equations by following these steps:

1. Take equations 1 and 2 and use Elimination to get rid of z. This will leave you with an equation involving only x and y. Label this **Equation A**.
2. Take equations 1 and 3 and use Elimination to get rid of z. This will leave you with an equation involving only x and y. Label this **Equation B**.
3. Take equations **A** and **B** and use Elimination to solve for x and y.
4. Take these values of x and y and substitute them into one of the original equations to solve for z.

Bellwork Alg 2A Tuesday, December 13, 2016

Answer

$(-3, 4, 1)$

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(1) $3(7x - 3y + z = -32) \rightarrow 21x - 9y + 3z = -96$

$4x - 5y + 3z = -29 \rightarrow -4x - 5y + 3z = -29$

A $17x - 4y = -67$

(2) $4(7x - 3y + z = -32) \rightarrow 28x - 12y + 4z = -128$

$3x + 7y - 4z = 15 \rightarrow +3x + 7y - 4z = 15$

B $31x - 5y = -113$

(3)

$5(17x - 4y = -67)$

$4(31x - 5y = -113)$

$85x - 20y = -335$

$-124x - 20y = -452$

$-39x = 117$

$x = -3$ 1

$31(-3) - 5y = -113$

$-93 - 5y = -113$

$y = 4$

for z use 1st eq

$7(-3) - 3(4) + z = -32$

$-21 - 12 + z = -32 \rightarrow z = 1$