

# Systems of Linear Equations in 3 variables

2.2

9/1/15

Solve using substitution

$$2x + 7y + z = -53$$

$$-2x + 3y + z = -13$$

$$6x + 3y + z = -45$$

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| Isolate a variable   |
| Substitute the variable into the two other equations                               |
| Solve the 2 variable 2 equation system   |
| Plug the two solved variables into an original equation to find the last variable. |

We Try:

$$x + 4y + z = 3$$

$$2x + y + z = 11$$

$$4x + y + 2z = 23$$

Solve using elimination

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

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

$$x + 2y + z = 11$$

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| Use elimination twice with two different pairs of equations to get rid of a variable. |
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|--|
| Solve the 2 variable 2 equation system |
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| Plug the two solved variables into an original equation to find the last variable. |
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We Try:

$$2x + y - z = -2$$

$$-2x + y + 2z = 15$$

$$x + 2y + z = 11$$

- 1) Combine your desks into groups of 4 by proximity.
- 2) Take out a piece of paper and pencil.
- 3) Each group will have about 5 minutes to work on the problem I give you. After 5 minutes you will go to the next table.
- 4) Each person must solve at least one problem. I want to see at least 4 different handwritings on the paper.
- 5) Turn in the paper at the end of the activity.