Intro to Ch 7.1

- If the middle row is the x-axis and the middle row is the y-axis, who is the origin?
- What quadrant are you representing?
- What is your ordered pair?
- Are you a solution to x - y = -2, if so please stand up ?
- Do you notice anything? Sit down.
- Are you a solution to x + y = 4, if so please stand up?
- Do you notice anything?

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Let's try another one.

- Are you a solution to x - y = -1, if so please stand up?
- Sit down.
- Are you a solution to x + y =3, if so please stand up?
- What did we notice this time?

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Do we need one more?

- If you are a solution to x = 3, please stand up.
- Sit down.
- If you are a solution to y = 2, please stand up.

What do we notice this time?

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Ch 7.1 ***Solving systems of equations by graphing.***

System of equations are 2 or more equations.

A ***solution*** to the system is the ***point of intersection*** or the ***ordered pair*** that works in ***both*** equations.

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Ex1a) Determine if (4,2) is a solution to this system?
-x + y = -2 and 2x + y = 10

Ex1b) Determine if (2, -3) is a solution to this system?
y = 2x + 1 and y = x + 1

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Try

1 **Is (5,2) a solution to 3x - 2y = 11 and -x + 6y = 7?**

Yes No

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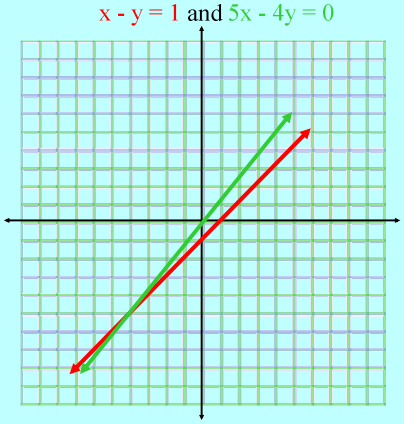
Ex2a) Use the graph to solve the linear system. Then check algebraically.

x - y = 1 and 5x - 4y = 0



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Ex3) Graph to determine the solution. Then check the solution algebraically.

Ex3a) y = 2 and y = x + 1

Pull

Pull

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Ex2b) Graph to determine the solution. Then check the answer algebraically.

x + y = -2

2x - 3y = -9

Pull

Pull

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1 **Find the point of intersection for y = -2x + 6 and 7y -14x = 14**

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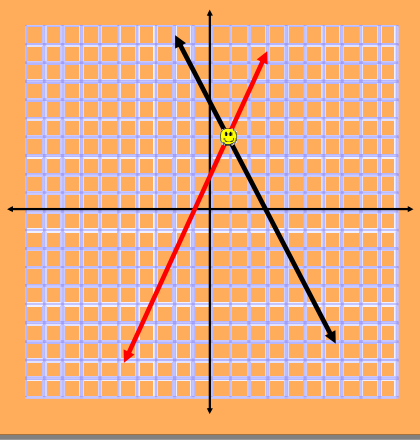
y = -2x + 6

7y - 14x = 14



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Ex 4) Applications:

Bryce and Julia are both saving money for college. Bryce has $2000 and deposits $50 per month. Julia has $1600 and deposits $100 per month. Predict in how many months will they have the same amount money in their accounts.

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So how can we find or determine if it is a solution to the system?

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- There are special types of systems.
- What is the solution to the system?
- What if they don't intersect? Would it have a solution?

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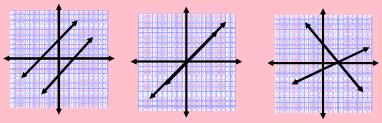
How many solutions do these systems have ?



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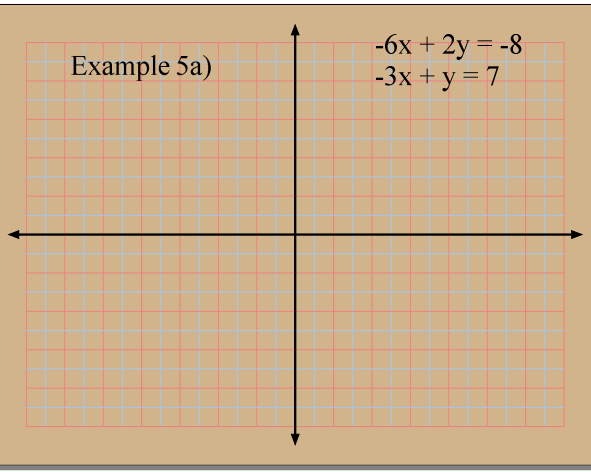
Example 5a)

-6x + 2y = -8
-3x + y = 7



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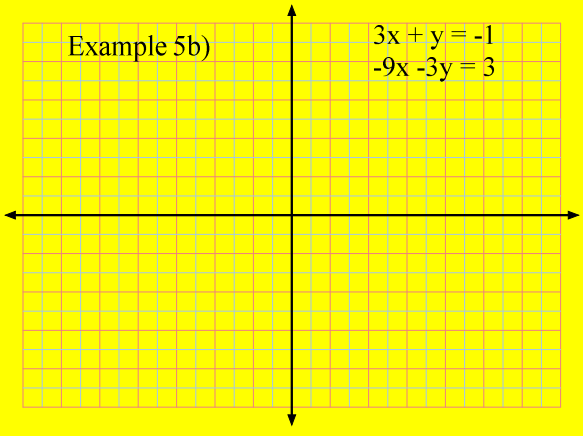
Example 5b)

3x + y = -1
-9x -3y = 3



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Try #3

How many solutions does this system have?

2x + y = 5
-6x -3y = -15

A Infinitely many

B No solution

C One solution

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Try #4

How many solutions does this system have?

-6x + 2y = 4

-9x + 3y = 12

A Infinitely many

B No solution

C One solution

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Try #5

Graph and determine how many solutions the system has: -x + y = 7

2x - 2y = -18

A Infinitely many

B No solution

C One solution

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In words, how do we determine no solution and infinitely many solutions?

Mar 2-10:42 AM