Name: _____ Class: _____

Date: _____ Period: _____

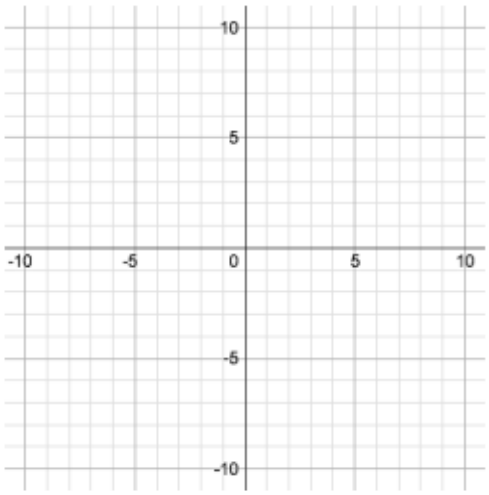
Activity Sheet 2 - How Many Solutions to a System of Equations?

1: Compare the pricing plans of the two gyms and discuss with a partner. Be sure to talk about any common points.

Sports Stars costs $3 to enter and $1 per game. Across town, Buffs Builders charges $1 per game and $5 to enter.

2. Create a system that has no solution. **Graph** it in the SIM. **Write** both equations.

Sketch both lines on the coordinate plane below, then **complete** the chart.

<table>
<tr>
<td> 
</td>
<td>Line 1:

y = ___x + _____

Slope: _____

Y-Int: _____</td>
<td>Line 2:

y = ___x + _____

Slope: _____

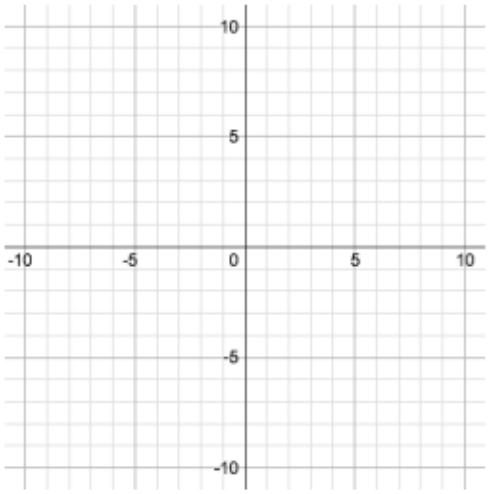
Y-Int: _____</td>
</tr>
<tr>
<td colspan="3">Discuss with a partner: What do you notice about the equations?</td>
</tr>
</table>

Name: _____ Class: _____

Date: _____ Period: _____

3. Create a different system that has no solution. Graph, and list the two equations.

Sketch both lines on the coordinate plane below, then **complete** the chart.

<table>
<tr>
<td> 
</td>
<td>Line 1:

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Slope: _____

Y-Int: _____</td>
<td>Line 2:

y = ___x + ___

Slope: _____

Y-Int: _____</td>
</tr>
<tr>
<td colspan="3">Discuss with a partner: What do you notice about the equations?</td>
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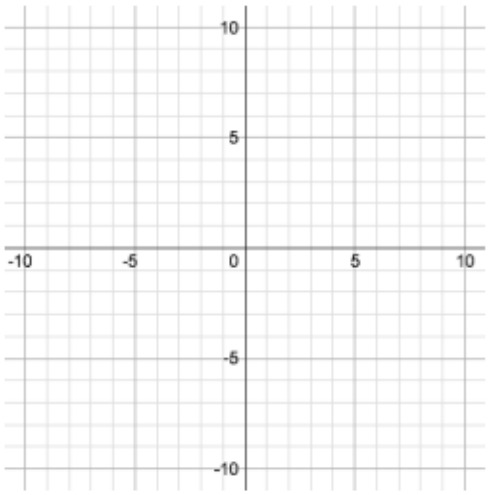
4. Compare the pricing plans of the two gyms and discuss with a partner. Be sure to talk about any common points.

Sports Stars costs $3 to enter and $1 per game. Across town, Radical Rams charges $1 per game and $3 to enter.

5. Create a system that has Infinitely Many. **Graph** it in the SIM. **Write** both equations.

Sketch both lines on the coordinate plane below, then **complete** the chart.

<table>
<tr>
<td> 
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</tr>
<tr>
<td colspan="3">Discuss with a partner: What do you notice about the equations?</td>
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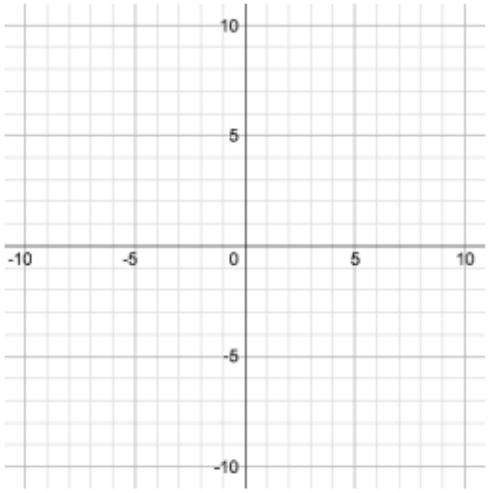
</table>

Name: _____ Class: _____

Date: _____ Period: _____

6. Create a different system that has Infinitely Many. Graph, and list the two equations.

Sketch both lines on the coordinate plane below, then **complete** the chart.

<table>
<tr>
<td> 
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</table>

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7.

$y = \frac{4}{5}x + 2$ $y = \frac{4}{5}x - 6$	Try this without graphing. How do you know how many solutions will there be?	☐ One solution (,) ☐ No solutions Ø ☐ Infinitely many solutions
$y = \frac{1}{4}x + 2$ $y = \frac{2}{8}x - (-2)$	Try this without graphing. How do you know how many solutions will there be?	☐ One solution (,) ☐ No solutions Ø ☐ Infinitely many solutions
$y = \frac{2}{5}x + 2$ $y = \frac{4}{3}x + 1$	Try this without graphing. How do you know how many solutions will there be?	☐ One solution (,) ☐ No solutions Ø ☐ Infinitely many solutions

Exit Slip:

3. Answer the following questions on an index card with your **name** on it.

a) **Describe** a system of linear equations and its solution.

b) How can you **determine** whether a system of linear equations has one solution, no solution, or infinitely many solutions by looking at the **graph**?

c) How can you **determine** whether a system of linear equations has one solution, no solution, or infinitely many solutions by looking at the **equation**?