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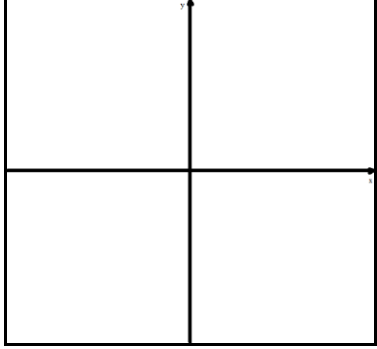
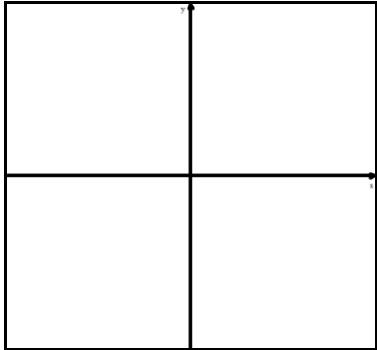
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(A) **Lesson Objectives:**

- a. Algebraically, using substitution, determine the intersection point of two lines and algebraically verify the intersection point. (REVIEW)
- b. Algebraically, using elimination, determine the intersection point of two lines and verify the intersection point. (REVIEW)
- c. Verify a solution to a linear system. (REVIEW)

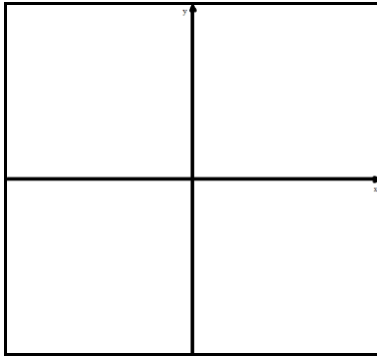
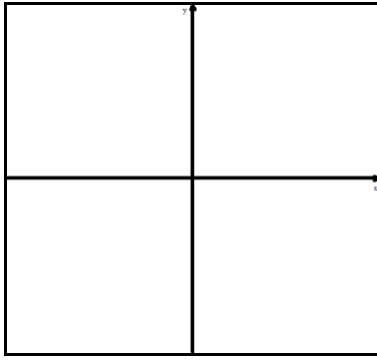
(B) **Examples for Classwork**

- a. **SUBSTITUTION** Examples: Solve and verify the following linear systems:

$y = 2x - 4$ and $y = -x + 5$	<p>Graphic Verification:</p> 	<p>Numeric Verification:</p> <table border="1" data-bbox="1237 598 1534 877"><thead><tr><th>x</th><th>f(x)</th><th>g(x)</th></tr></thead><tbody><tr><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td></tr></tbody></table>	x	f(x)	g(x)									
x	f(x)	g(x)												
$2x + 3y - 9 = 0$ and $x - y - 2 = 0$	<p>Graphic Verification:</p> 	<p>Numeric Verification:</p> <table border="1" data-bbox="1237 1249 1534 1528"><thead><tr><th>x</th><th>f(x)</th><th>g(x)</th></tr></thead><tbody><tr><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td></tr></tbody></table>	x	f(x)	g(x)									
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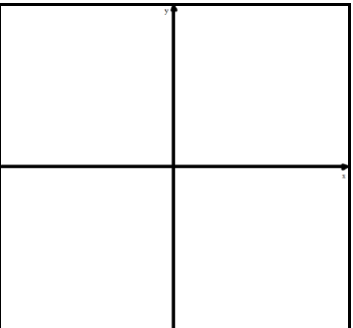
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$y = 5x - 2$ and $6x + 3y = 36$	Graphic Verification: 	Numeric Verification: <table border="1" data-bbox="1235 262 1528 556"><thead><tr><th>x</th><th>f(x)</th><th>g(x)</th></tr></thead><tbody><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr></tbody></table>	x	f(x)	g(x)									
x	f(x)	g(x)												
$x + 4y = -10$ and $2x + y = 1$	Graphic Verification: 	Numeric Verification: <table border="1" data-bbox="1235 850 1528 1144"><thead><tr><th>x</th><th>f(x)</th><th>g(x)</th></tr></thead><tbody><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr></tbody></table>	x	f(x)	g(x)									
x	f(x)	g(x)												

(C) **Examples for Classwork**

a. ELIMINATION Examples: Solve and verify the following linear systems:

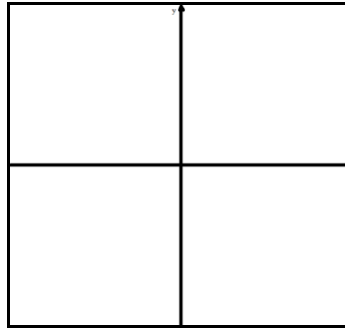
$2x - 2y - 14 = 0$ $-2x + 4y - 4 = 0$	Graphic Verification: 	Numeric Verification: <table border="1" data-bbox="1198 1533 1461 1816"><thead><tr><th>x</th><th>f(x)</th><th>g(x)</th></tr></thead><tbody><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr></tbody></table>	x	f(x)	g(x)									
x	f(x)	g(x)												

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$$3x - 2y = 17$$
$$-6x - 2y = 8$$

Graphic Verification:

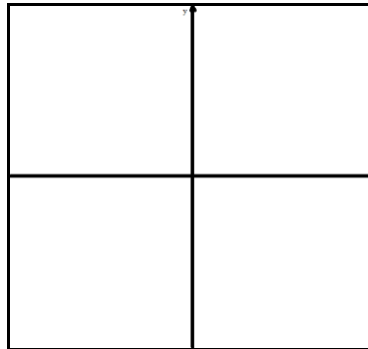


Numeric Verification:

x	f(x)	g(x)

$$4x = 9 - y$$
$$3y - 6x = 9$$

Graphic Verification:

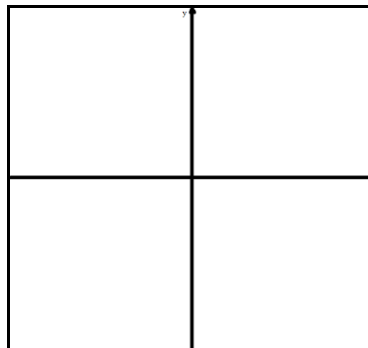


Numeric Verification:

x	f(x)	g(x)

$$2y + 4 = 6x$$
$$y + 3x = 1$$

Graphic Verification:



Numeric Verification:

x	f(x)	g(x)

Date:

Title:

- (D) Guarantee Pool Repair Services charges \$50 for a service call and \$40/hour for labour. Oasis Pools and Spas charges \$30 for a service call plus \$45 for labour. Find the length of a service call for which both companies charge the same amount
- (E) Regina is training for the upcoming cross country season. She needs to design a daily 45 minute workout using a combination of a stationary bike and a treadmill. To be in top shape, she should burn 400 calories in her workout. On a bike, she burns 8 cal/min and on the treadmill she burns 10 cal/min. How many minutes should she train on each piece of equipment?
- (F) As the owner of a banquet hall, you are in charge of catering a reception. There are 2 dinners: a chicken dish that costs \$16 and a beef dish that costs \$18. The 300 wedding guests have ordered the dinners in advance and the total cost to prepare the dinners is \$5256. How many of each type of dinner are you preparing?
- (G) **Homework/Resources**
- HOMEWORK: from the Nelson Textbook: S1.8, p92-95, Q1,3,7,8,11
 - HOMEWORK: from the Nelson Textbook: S1.9, p101-104, Q2adf,3adf,4,6acegik,7,8
 - Help from OnlineMathLearning with substitution → <http://www.onlinemathlearning.com/solving-systems-of-equations-3.html>
 - Help from OnlineMathLearning with elimination → <http://www.onlinemathlearning.com/systems-of-linear-equations-2.html>