

Date: 2/2/15
Time: 12:10 PM

Instructor: J. [REDACTED] Assignment: Week 5: Homework 4.1
Course: MATH110 A009 Win 15
Book: Tobey: Beginning and Intermediate Algebra, 4e

1. Explain what happens when a system of two linear equations is inconsistent. What effect does it have in obtaining a solution? What would the graph of such a system look like?

Choose the correct answer below.

- ☐ A. When a system of two linear equations is inconsistent, there is no solution. This means that there is no point (x,y) that satisfies both equations. The graph of such a system yields two perpendicular lines.
- ☐ B. When a system of two linear equations is inconsistent, there is no solution. This means that there is no point (x,y) that satisfies both equations. The graph of such a system yields two parallel lines.
- ☐ C. When a system of two linear equations is inconsistent, there are infinitely many solutions. This means that every point (x,y) satisfies both equations. The graph of such a system yields two identical lines.
- ☐ D. When a system of two linear equations is inconsistent, there is no solution. This means that there is no point (x,y) that satisfies both equations. The graph of such a system yields two identical lines.

2. How many possible solutions can a system of two linear equations in two unknowns have?

Select all that apply.

- ☐ A. One
- ☐ B. Two
- ☐ C. Four
- ☐ D. Three
- ☐ E. Infinitely many solutions
- ☐ F. No solution

3. Determine whether the given ordered pair is a solution to the system of equations.

$$\left(\frac{3}{2}, 1\right) \quad \begin{array}{l} 4x + 1 = 8 - y \\ 2x - 7y = -4 \end{array}$$

Is $\left(\frac{3}{2}, 1\right)$ a solution to the system?

- ☐ no
- ☐ yes

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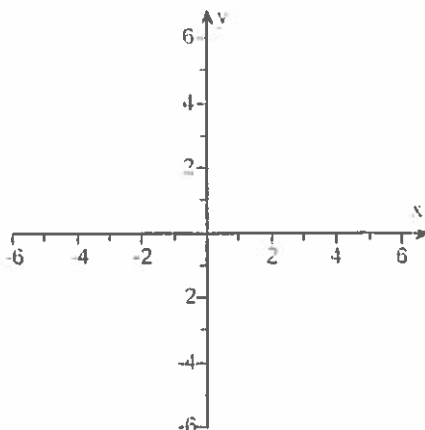
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4. Solve the system of equations by graphing. Check your solution.

$$\begin{aligned} 2x - 3y &= 6 \\ 5x + y &= -2 \end{aligned}$$

Use the graphing tool to graph the system.

Click to
enlarge
graph



Select the correct choice below and fill in any answer boxes present in your choice.

- ☐ A The solution to the system is .
(Type an ordered pair.)
- ☐ B There are infinitely many solutions.
- ☐ C There is no solution.

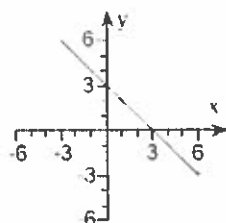
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5. Solve the system of equations by graphing. Check your solution.

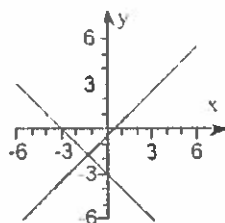
$$\begin{aligned} y &= -x + 3 \\ x + y &= -\frac{1}{2} \end{aligned}$$

Choose the correct graph of the equations.

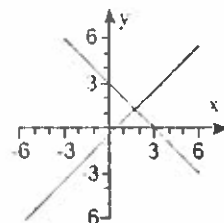
☐ A



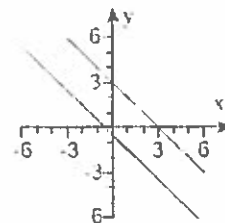
☐ B



☐ C



☐ D



Select the correct choice below and fill in any answer boxes present in your choice.

- ☐ A The solution to the system is . (Type an ordered pair.)
- ☐ B There is an infinite number of solutions.
- ☐ C There is no solution.

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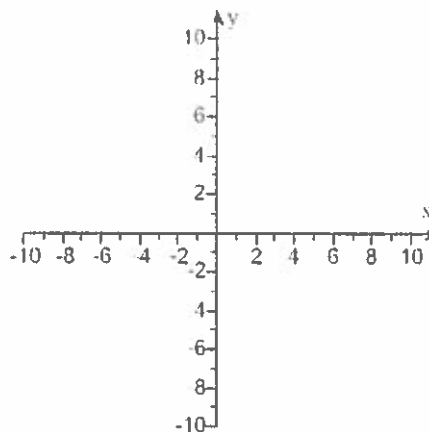
6. Solve the system of equations by graphing.
Check your solution.

$$y = -2x + 4$$

$$2y + 4x = 8$$

Use the graphing tool to graph the system.

Click to
enlarge
graph



Select the correct choice below and fill in any answer boxes present in your choice.

- ☐ A The solution to this system is .
(Type an ordered pair.)
- ☐ B There are infinitely many solutions.
- ☐ C There is no solution.



7. Solve the system of equations by substitution.

$$5x + y = 9$$

$$y = 4x$$

The solution set is .
(Type an ordered pair.)

8. Solve the system by substitution.

$$-x - 7y = -10$$

$$y = 7x - 20$$

Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

- ☐ A The solution set is . (Type an ordered pair.)
- ☐ B There are infinitely many solutions.
- ☐ C There is no solution.

9. Solve the following system by substitution.

$$x = 14y + 110$$

$$x = \frac{7}{6}y$$

The solution set is .
(Simplify your answer. Type an ordered pair.)

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10. Solve the system by substitution.

$$\begin{aligned}y &= 3x \\ 6x - 2y &= 0\end{aligned}$$

Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

- ☐ A The solution set is $\{ \quad \}$. (Type an ordered pair.)
☐ B There are infinitely many solutions.
☐ C There is no solution.

11. Solve the system by substitution.

$$\begin{aligned}x &= 6y \\ 3x - 18y &= 3\end{aligned}$$

Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

- ☐ A The solution set is $\{ \quad \}$. (Type an ordered pair.)
☐ B There are infinitely many solutions.
☐ C There is no solution.

12. Find the solution to the system by the addition (elimination) method. Check your answers.

$$\begin{aligned}8x + 5y &= 5 & (1) \\ 2x + 9y &= 9 & (2)\end{aligned}$$

What is the solution to the system?

(Type an ordered pair.)

13. Find the solution to the system by the addition (elimination) method. Check your answers.

$$\begin{aligned}2s + 5t &= 13 & (1) \\ 9s - 10t &= 13 & (2)\end{aligned}$$

What is the solution to the system?

(Type an ordered pair of the form (s,t). Use integers or fractions for any numbers in the expression.)

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14. Find the solution to the system by the substitution method. Check your answers.

$$\frac{1}{2}x - \frac{1}{8}y = 3 \quad (1)$$

$$\frac{2}{3}x + \frac{3}{5}y = 4 \quad (2)$$

What is the solution to the system?

(Type an ordered pair.)

15. If possible, solve the system of equations. Use any method. If there is not a unique solution to the system, state a reason.

$$5x - y = 20 \quad (1)$$

$$8x + 3y = 55 \quad (2)$$

Select the correct choice below and fill in any answer boxes present in your choice.

- ☐ A The solution to the system is . (Type an ordered pair.)
☐ B There are infinitely many solutions.
☐ C There is no solution.

Which of the statements below is a good explanation for the solution?

- ☐ A The graphs of the two equations never intersect.
☐ B The graphs intersect at one point, so the solution is unique.
☐ C The graphs of the two equations represent the same line.

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16. If possible, solve the system of equations. Use any method.

$$\begin{aligned}0.2x &= 0.1y - 1.9 & (1) \\ 2x - y &= 9 & (2)\end{aligned}$$

Select the correct choice below and fill in any answer boxes present in your choice.

- ☐ A The solution to the system is . (Type an ordered pair.)
☐ B There is an infinite number of solutions.
☐ C There is no solution.

Describe the system of equations.

- ☐ A The equations are dependent. Their graphs are identical.
☐ B The equations are inconsistent. Their graphs are parallel lines.
☐ C The equations are independent and consistent. Their graphs intersect at one point.

17. If possible, solve the system of equations. Use any method. If there is not a unique solution to the system, state a reason.

$$\begin{aligned}4x - 3y &= 8 & (1) \\ -28x + 21y &= -56 & (2)\end{aligned}$$

Select the correct choice below and fill in any answer boxes present in your choice.

- ☐ A The solution to this system is . (Type an ordered pair.)
☐ B There are infinitely many solutions.
☐ C There is no solution.

Which of the statements below is a good explanation for the solution?

- ☐ A The graphs of the two equations never intersect.
☐ B The graphs intersect at one point, so the solution is unique.
☐ C The graphs of the two equations represent the same line.