FMPC10   **Name:_____**

SYSTEMS OF EQUATIONS – REVIEW
### In-Class Assignment

All Levels:

[10]   Using your memory, notes or a textbook, fill in the blanks:

1. There are four methods for solving a system of linear equations:

_____   _____

_____   _____

2. The solution to a system of two linear equations is _____ .

3. In order to be able to solve a system of equations, the number of equations has to be the same

    as the number of _____ .

4. _____ is the most useful method of solving a system of equations

    in high school.

5. A system of equations that represent two parallel lines will have _____ .

6. It is difficult to solve a system of equations by graphing when the solution is

    _____ .

7. The left side has to be equal to the right side when the solution to the system is substituted

    into _____ and each side is simplified

    following the order of operations.

Level 1

[2]   1. What is the solution to the system of equations graphed below?
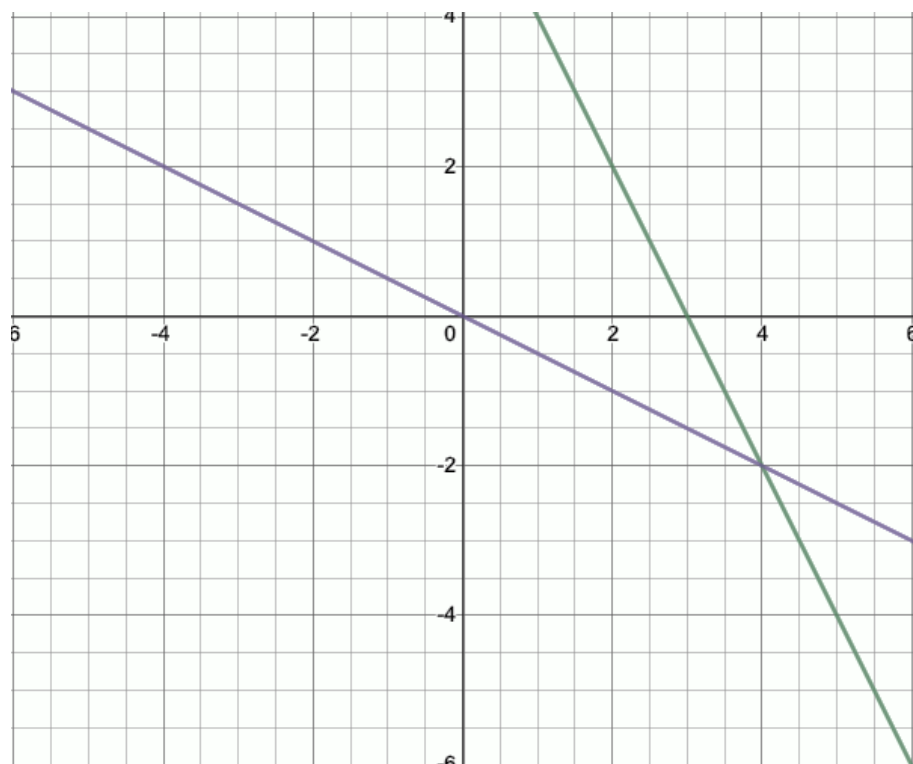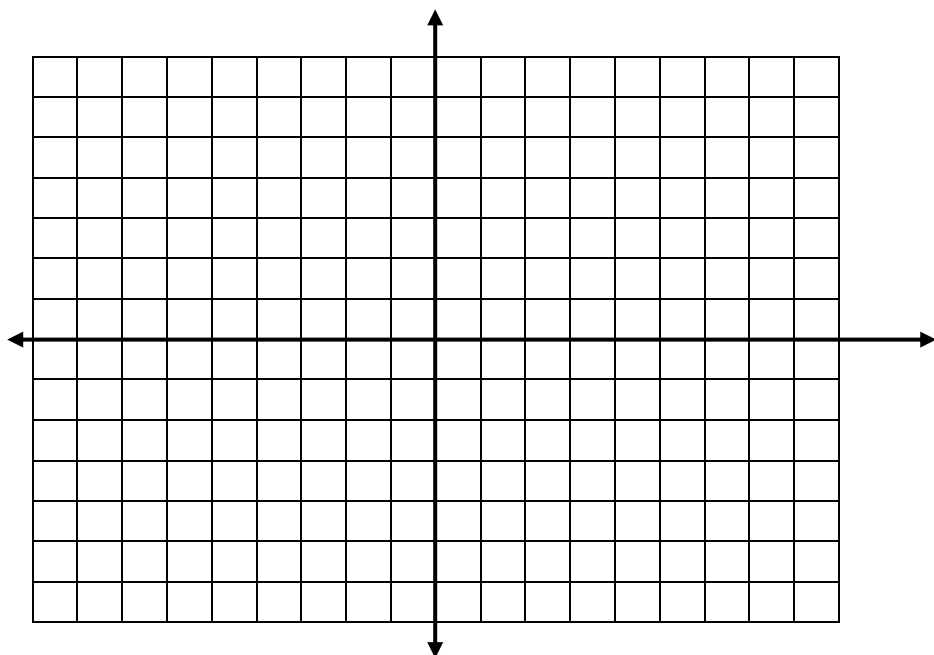

$$y = -2x + 6$$

$$y = -\frac{1}{2}x$$

∴The solution is _____ .

[4]   2. Solve the given system of equations by graphing:

$$x = -3$$

$$y = -\frac{1}{2}x + 4$$

[4] 3. Solve by substitution:

$$y = -0.5x + 2$$

$$y = \frac{1}{2}x - 2$$

- Please show your work to earn full marks.

[1] 4. Is it possible that a system of two linear equations does not have any real solutions?
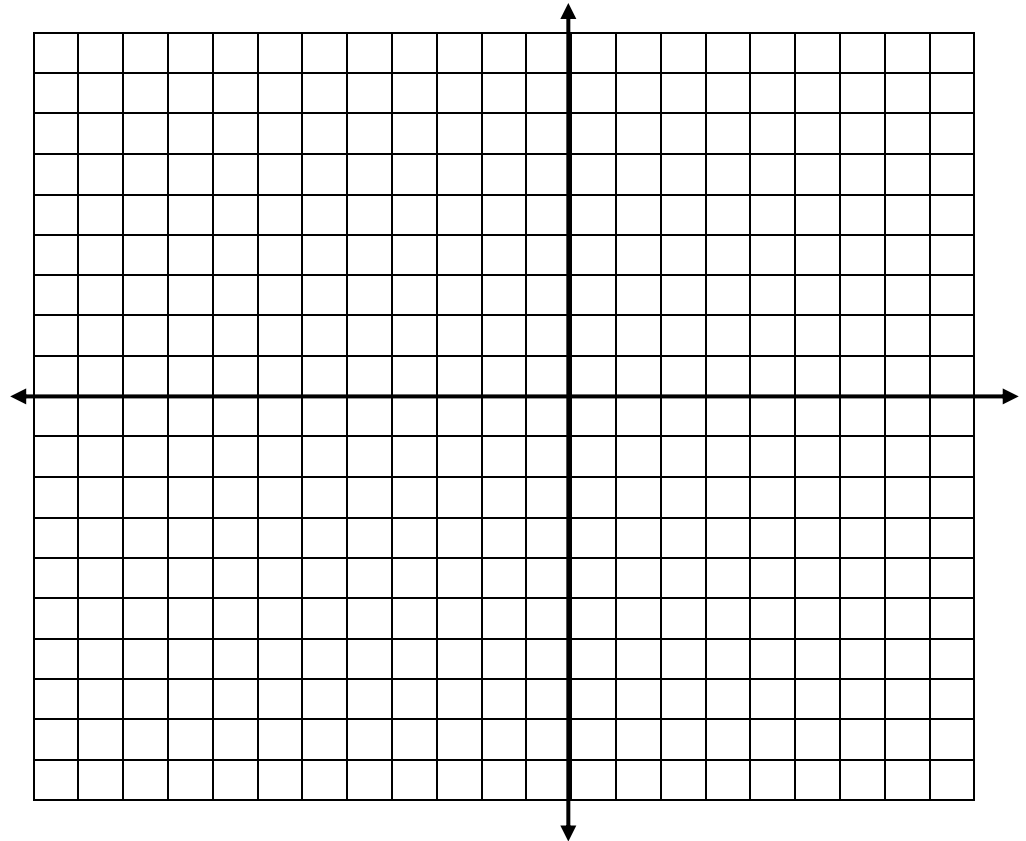
_____ (Yes or No)

[1] 5. A system of two linear equations that represent perpendicular lines will have:

a) Exactly one real solution.

b) Infinitely many real solutions.

c) No real solutions.

Level 2

[2]   1. Use graphing to find the solution to the system of linear equations.

$y = \dfrac{5}{4}x + 4$

$y = -\dfrac{3}{4}x - 4$

∴The solution is _____ .

[1]   2. Is it possible that a system of two linear equations have exactly two real solutions?

_____ (Yes or No)

[1]   3. A system of two linear equations that represent parallel lines with different

y-intercepts will have:

a) Exactly one real solution.

b) Infinitely many real solutions.

c)Exactly 2 real solutions.

d) No real solutions.

[4]   4. Solve the given system of equations by substitution:

- Please show your work to earn full marks

$$y = 0.75x - 2$$

$$y = 2x + 8$$

[4]   5. Solve by substitution:

$$2x + y = 10$$
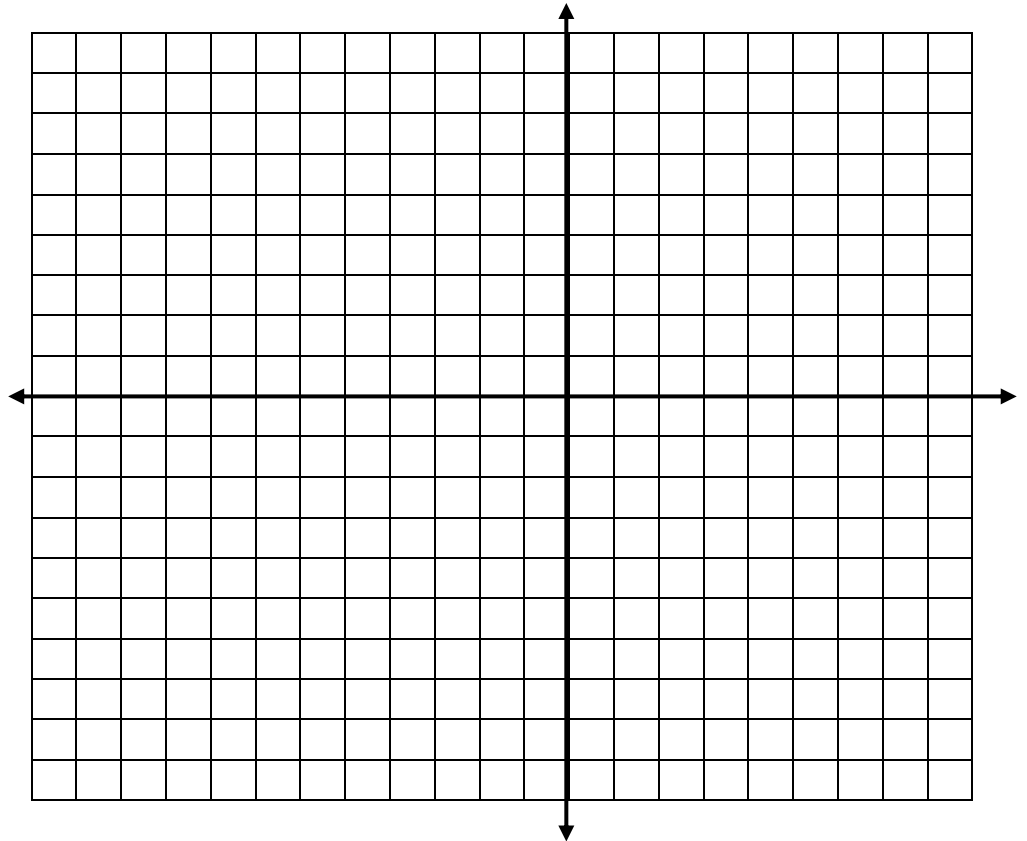
$$y = 3x + 15$$

- Please show your work to earn full marks.

Level 3

[4]   1. Use substitution to solve the given system. Then, use graphing to check your answer.

$2x + y = 4$

$6x + 3y - 15 = 0$

[4]   2. Solve the given system of equations by elimination:

- Please show your work to earn full marks

$$2x + 3y = 11$$

$$-x + 5y = 40$$

[4]   3. Solve by substitution or by elimination:

- Please show your work to earn full marks.

- **Check your answer using algebra**.

$$\frac{1}{2}x + 4y = 20$$

$$\frac{1}{4}x + 5y + 30 = 0$$

Level 4

[2]   **1.** Give an example of a system of linear equations that has infinitely many solutions.

[2]   **2.** Give an example of a system of equations with the following properties: The equations represent perpendicular lines with a different y-intercept. **Graph the system.** (*Hint: you may want to start with the graph*).

[4]

3. Solve by elimination or substitution:
   - Use algebra to check your answer.

$$y = \frac{-2}{3}x - 2$$

$$2x + 3y - 40 = 0$$

[4] 4. Solve by elimination and use algebra to check your answer:

$$y = -0.25x - 4.5$$

$$3x + 12y + 54 = 0$$