

Foundations of Math 10 LG 12

SOLVING SYSTEMS OF LINEAR EQUATIONS GRAPHICALLY

INTRODUCTION:

The ability to quantify situations and compare ... Check out pages 414 & 415.

LEARNING GUIDE EXPECTATIONS:

On the completion of this learning guide you will be able to:

- 1) solve and verify systems of linear equations graphically.
- 2) model and solve linear systems of equations.
- 3) explain why systems of linear equations may have zero, one, or an infinite number of solutions.

EVALUATION:

You are ready to progress to the next learning guide when you can demonstrate your understanding of the above expectations. Please refer to your Mathematics 10 Marks Record Sheet to determine the assessment.

RESOURCES NEEDED:

 Mathematics 10 Text

LEARNING ACTIVITIES:

Expectation #1: Solve systems of linear equations graphically.



1. [Watch and take notes on instructional video on Graphing Systems of Equations.](#)



2. Read page 416. Complete the “Investigate Ways to Represent Linear Systems”.
3. Read Link the Ideas on page 417.



4. In your Math Journal:

- a) describe what a system of linear equation is.
- b) define the term point of intersection and explain its significance.
- c) illustrate how to solve a system of equations graphically.



5. Work through Examples 1, 2, & 3 on pages 418-423 and then complete #3, 5 on page 427.
6. Read Key Ideas on page 426.



7. In your math journal, explain how to verify a solution to a system of linear equations.



8. Complete #4, 6, 7, 8, 9, 10, 11, 12, 19, 20 & 23 on pages 427-431.

9. For extra practice, click [here](#). For the answers to the extra practice, click [here](#).



Expectation #2: Model and solve linear systems of equations.



1. [Watch and take notes on instructional video on Modeling and Solving Linear Equations.](#)



2. Read Link the Ideas on page 433 and work through Example 1 on page 434 & 435. Now complete #1, 5 on pages 440-441.

3. Work through Examples 2 and 3 on pages 436-438. Read Key Ideas on page 439.



4. In your math journal, describe some strategies that can help you to model and solve systems of linear equations.



5. Complete #2, 3, 6, 7, 8, 11, 14, 16, 18 and 19 on pages 440-444.

6. For extra practice, click [here](#). For the answers to the extra practice, click [here](#).



Expectation #3: Explain why systems of linear equations may have zero, one, or an infinite number of solutions.



1. [Watch and take notes on instructional video on Number of Solutions to a System of Equations.](#)



2. Read Link the Ideas on pages 447-448 and work through Example 1 on pages 448 - 450.

3. Complete #1 on page 454.

4. Work through Example 2 on pages 451 – 452 and complete #2 on page 455.

5. Work through Example 3 on page 453 and complete #3 on page 455.

6. Read Key Ideas on page 454.



7. In your math journal:

a) draw a graph that shows a system of linear equations with one solution and explain how you can tell from the equations that it will only have 1 solution.

b) draw a graph that shows a system of linear equations with no solution and explain how you can tell from the equations that it will have no solution.

c) draw a graph that shows a system of linear equations with an infinite number of solutions and explain how you can tell from the equations that it will have an infinite number of solutions.



8. Complete #5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, & 17 on pages 454-459.

9. For extra practice, click [here](#). For the answers to the extra practice, click [here](#).

REVIEW AND CHALLENGE



1. Complete Chapter 8 Review pages 460-462 #1, 2, 4, 5, 6, 8, 9, 10, 11, 12 & 13.



2. In the Mathematics 10 text, complete Chapter 8 Practice Test pages 463-465 #1-14.

PRACTICE QUIZZES

[Practice quiz #1](#)

[Practice quiz #2](#)

[Practice quiz #3](#)

[Practice quiz #4](#)

[Practice quiz #5](#)