

Name: \_\_\_\_\_

Date: \_\_\_\_\_

**Directions:**

Type your work in the boxes provided for you.

[Click here for some helpful examples from our notes.](#)

[Click here for the reference sheet for this unit.](#)

Make references and examples easy to access with links.

**Problem 1**

For each method of solving a system of equations, **describe the strengths and weaknesses of the strategy.** Think about when you'd choose to use a method, if you'd need any special tools or supplies, and what kind of mistakes you might make. An example has been provided for you to help you get started.

Type out any directions or questions that you want to edit or accommodate. Use bolding strategically to highlight key words, headers, and other cues for students.

Strategy #1: **Graphing a system of equations**

Strengths	Weaknesses
<ul style="list-style-type: none"> <li>• Graphing can be very quick</li> <li>•</li> <li>•</li> <li>•</li> </ul>	<ul style="list-style-type: none"> <li>•</li> <li>•</li> <li>•</li> <li>•</li> </ul>

Model how students will use graphic organizers.

Strategy #2: **Substitution**

Strengths	Weaknesses
<ul style="list-style-type: none"> <li>•</li> <li>•</li> <li>•</li> <li>•</li> </ul>	<ul style="list-style-type: none"> <li>•</li> <li>•</li> <li>•</li> <li>•</li> </ul>

Find a way to visually distinguish for students where they should put their work, versus the questions. Here, we've used tables with pre-established bullet points.

Strategy #3: **Elimination**

Strengths	Weaknesses
<ul style="list-style-type: none"> <li>•</li> <li>•</li> <li>•</li> <li>•</li> </ul>	<ul style="list-style-type: none"> <li>•</li> <li>•</li> <li>•</li> <li>•</li> </ul>

**Problem 2**

Neil and Glen are arguing about which method to use to solve a system of equations.

*“It doesn’t matter,” says Neil. “Any method will work if you’re careful enough.”*

*“I don’t agree,” says Glenn. “There are some systems of equations you can only solve with one method and not the others.”*

Do you agree with Neil or Glenn? **Explain your reasoning.**

Use text formatting to strategically highlight key words, headers, and other cues for students.

Be strategic about the size of space you provide for student answers in order to suggest how long an answer should be. You can also do this by providing a certain number of bullet points.

Stuck? Highlight the hidden text between the brackets.

[Think about your answers to Question #1.  
When you learned about exponential expressions earlier this year, you learned that you could use the expanded form or use rules based on patterns we saw in our answers to solve or simplify expressions. Did only one of those strategies work at a time, or did they both always work if you were careful enough?]

Add prompts that students can use if they get stuck. The text between the brackets is white but can be revealed when students highlight, as shown here.

**Problem 3**

A daycare center has a collection of **bicycles** and **tricycles**. One day, a **sneaky toddler took all the wheels and handlebars off the bicycles and tricycles!** The daycare staff is trying to put everything back together, but **they don't remember how many of each kind of toy they had**. They have a pile of 16 handlebars and 45 wheels. (Each bicycle or tricycle has one handlebar.)

Use text formatting to strategically highlight key words, headers, and other cues for students.

- a. What variables will you need for this system of equations? Define your variables in the space below.

- b. Write two equations using your variables that describe this situation.

- c. Which method of solving the system are you going to use? Why did you choose this method?

Consider adding additional scaffolding like this guiding question to help students maintain problem-solving momentum.

- d. Solve the system using the method of your choice. Enter your work below by typing in your steps or uploading a picture of your work.

- e. How many tricycles were there?

**Problem 4**

Leona and Annabell are raising money for their class trip to Washington D.C. Leona sells 20 candy bars and 10 boxes of stationary for a total of \$65. Annabell sells 5 candy bars and 22 boxes of stationary for a total of \$84.50. How much does each item cost?

- a. What variables will you need for this system of equations? Define your variables in the space below.

- b. Write two equations using your variables that describe this situation.

- c. Which method of solving the system are you going to use? Why did you choose this method?

- d. Solve the system using the method of your choice. Enter your work below by typing in your steps or uploading a picture of your work.

- e. How much does each item cost?

Consider extending scaffolding further than you normally would, like adding these questions from Problem 3 to Problem 4.

**Problem 5**

Solve the system of equations below using the method of your choosing.

$$y = \frac{3}{5}x + 6$$

$$y = -4x - 17$$

**Show your work in the box below.** You can type in or upload a picture of your work.

Stuck? Highlight the hidden text between the brackets.

[What strategy would be best for solving this system? Take a look at question 1 and see which method is the best fit for this problem.]

**Problem 6**

Three ounces of bacon and four ounces of chicken has a total of 66.7 grams of protein. Six ounces of bacon and three ounces of chicken has 89.4 grams of protein. How many grams of protein are there in one ounce of bacon? How many grams of protein are there in one ounce of chicken?

**Show your work in the box below.** You can type in or upload a picture of your work.

Stuck? Highlight the hidden text between the brackets.

[You'll need to answer the questions from parts a-c of question #4 for every system of equations you solve. Look back at those questions and answer them as you work through this problem.]

On questions where you aren't adding explicit scaffolding, you can prompt students to reference prior strategies in your hidden hints.

**Problem 7**

Tim is 5 years older than JoAnn. Six years from now, the sum of their ages will be 79. How old are they now?

**Show your work in the box below.** You can type in or upload a picture of your work.

Stuck? Highlight the hidden text between the brackets.

[You'll need to answer the questions from parts a-c of question #4 for every system of equations you solve. Look back at those questions and answer them as you work through this problem. Also, think very carefully about how you've defined your variables. If you didn't write them out, do so now.]

**Problem 6**

Three times the difference of two numbers is 27. Their sum is 31. Find the two numbers.

**Show your work in the box below.** You can type in or upload a picture of your work.

Stuck? Highlight the hidden text between the brackets.

[You'll need to answer the questions from parts a-c of question #4 for every system of equations you solve. Look back at those questions and answer them as you work through this problem.]

On questions where you aren't adding explicit scaffolding, you can prompt students to reference prior strategies in your hidden hints.