**Algebra 1**

**Unit 5, Lesson 9: Reteaching graphing linear equations**

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| **Objectives** | **Unit Skills** |
| * Students will draw “comic strip” explanations of the process for graphing a line.
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| **Materials and Handouts** | **Homework** |
| * Do Now (two sides): Linear Graphs – Let’s Get Them Straight
* Keynote
* Comic strip templates
* Skills Test #8 retakes, two versions
* Homework #5-9
 | #5-9: Comic Strip for 3x + 4y = 20. |
| **Time** | **Activity** |
| 10 min | **Do Now*** Readiness check
* Students graph four linear equations: one with negative slope, one with positive slope, one with zero y-intercept, and one with zero slope. They should ignore the “steps” part for now.
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| 10 min | **Direct Instruction*** Students know the process for graphing lines in general, but there are two main areas where mistakes are still being made. The purpose today is to focus on those problems and correct them. Students will make “comic strips” to illustrate the different processes, and can refer to these when doing homework or taking a test to help out.
* For equation 1, show the bullet points in the process. Call on students to help fill in the blanks. They copy these into their Do Now notes. Repeat with equation 2, focusing on the difference between missing slope and missing starting point.
 |
| 15 min | **Individual Work*** Hand out the Linear Equation Comic Strips template. Students should make a comic strip for the first two types of problems: missing starting point and missing slope. The idea is to make a comic strip that helps them remember the process, and the places that they are likely to make a mistake. If they want to add in other elements for creativity, they can, but it is not necessary.
* The panels in the comic strip should connect back to the bullet points discussed as a class.
* They should create a new problem, not the example problem.
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| 10 min | **Direct Instruction*** Repeat the process with equations 3 and 4, focusing on the difference between positive and negative slope.
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| 15 min | **Individual Work*** Students make comic strips for the second two types of problems.
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| 5 min | **Direct Instruction*** Remind students about how to graph a standard form equation by converting to slope intercept form. Work through examples together: 5x – 3y = 12 and 2x + 8y = -16. Students copy these down after comic strip 4.
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| 15 min | **Skills Test #8 Retake*** Students who already scored a 6 can start their homework instead.
* The students’ comic strips can be used on this test, but not the other notes.
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**Algebra 1 Block 4: Name:**

**Unit 4**

**Linear Graphs: Let’s Get Them Straight!**

**Problem 1:** 

**Steps:**

1. If the number is with ***x***, it is the \_\_\_\_\_\_\_\_. If the number is by itself, it is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_.
2. The missing number is \_\_\_\_\_\_\_\_\_\_\_.
3. Put a dot on the starting point. This is always on the \_\_\_\_ axis.
4. If the slope is a whole number, you can put it over \_\_\_\_\_.
5. Use the slope to make the next point. Slope is \_\_\_\_\_\_ over \_\_\_\_\_\_.



**Problem 2:** 

**Steps:**

1. If the number is with ***x***, it is the \_\_\_\_\_\_\_\_. If the number is by itself, it is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_.
2. The missing number is \_\_\_\_\_\_\_\_\_\_\_.
3. Put a dot on the starting point. This is always on the \_\_\_\_ axis.
4. When the slope is 0, the line is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ or \_\_\_\_\_\_\_\_\_.



**Problem 3:** 



**Steps:**

1. If the number is with ***x***, it is the \_\_\_\_\_\_\_\_. If the number is by itself, it is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_.
2. Put a dot on the starting point. This is always on the \_\_\_\_ axis.
3. If the slope is \_\_\_\_\_\_\_\_\_\_\_\_\_\_, move \_\_\_\_\_. If the slope is \_\_\_\_\_\_\_\_\_\_\_\_\_\_, move \_\_\_\_\_\_\_.
4. Always move to the \_\_\_\_\_\_\_\_\_\_. If you go off the paper, then go \_\_\_\_\_\_\_\_\_\_\_\_\_.

**Problem 4:** 

**Steps:**

1. If the number is with ***x***, it is the \_\_\_\_\_\_\_\_. If the number is by itself, it is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_.
2. Put a dot on the starting point. This is always on the \_\_\_\_ axis.
3. If the slope is \_\_\_\_\_\_\_\_\_\_\_\_\_\_, move \_\_\_\_\_. If the slope is \_\_\_\_\_\_\_\_\_\_\_\_\_\_, move \_\_\_\_\_\_\_.
4. Always move to the \_\_\_\_\_\_\_\_\_\_. If you go off the paper, then go \_\_\_\_\_\_\_\_\_\_\_\_\_.



**Algebra 1 Period: Name:**

**CLASSWORK 4.1**

**Comic Strip for 3x + 4y = 20**

**Directions:** Draw a comic strip that shows **every step** in the process of graphing the equation **3x + 4y = 20**. The last panel should show the completed graph.

Note: you don’t need to use all nine blank panels, but you need to show every part of the process.

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**Algebra 1 Name:**

**Linear Equation Comic Strips**

**Comic Strip 1:** Graph a line when the starting point is zero. **Problem:**

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**Comic Strip 2:** Graph a line when the slope (rate of change) is zero. **Problem:**

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**Comic Strip 3:** Graph a line with a positive slope. **Problem:**

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**Comic Strip 4:** Graph a line with a negative slope. **Problem:**

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**Examples of Graphing Lines in Standard Form** ( ax + by = c):