

# COMPLETE A TABLE FROM A GRAPH



Innovation  
Branding  
Solution  
Marketing  
Analysis  
Ideas  
Success  
Management

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Nov

Dec

**GRADE 5-6**

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- Instructional Pages** ▶ pages 3 – 4
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- Quiz page** ▶ pages 11 – 12

# Classroom Procedure:

1. Begin by explaining to students that each point on a graph can be written as an ordered pair. Ordered pairs can be written in a table to make interpreting the graph easier.
2. While reading the content pages, reinforce graphing vocabulary and give students additional examples of completing a table from a graph problem in order to help them practice the new information. Use the additional resources to enhance understanding.
3. Introduce the notes on completing a table from a graph. Have students practice problems with horizontal and vertical tables. Use the additional resources to enhance understanding.
4. Have students practice problems where they draw their own graphs.
5. Follow Activity page with students. Have students work in pairs.
6. Distribute Practice page. Check and review the students' responses as a class.
7. Distribute the Homework page. Have students work a few problems at the beginning of the next class to reinforce the information.
8. In closing, ask students to explain why it is important to use the cross marks when writing a table from a graph.
9. Allow for responses and discussion.

**Approximate Grade Level:** 5 – 6

**Objectives:** The student will be able to write ordered pairs in a table from a graph containing points or a linear function.

**State Educational Standards\***

LB.Math.Content.5.G.A.1

None for Grade 6

**Class Sessions (45 minutes):** 1 class

**Teaching Materials/Worksheets:**

*Complete a Table from a Graph* content pages (2), Activity pages (1), Practice page (4), Homework page (1), Quiz (2)

**Student Supplies:** None

**Prepare Ahead of Time:** Copy materials

**Options for Lesson:** Have students create tables from various functions that are not linear, have students do a scavenger hunt for a specific point on a graph such that they have to find the graph with the point on it or find the point that matches the graph, have students create posters of graphs to display in the classroom with various patterns and tables.

\*Lessons are aligned to meet the education objectives and goals of most states. For more information on your state objectives, contact your local Board of Education or Department of Education in your state.



# Teacher Notes

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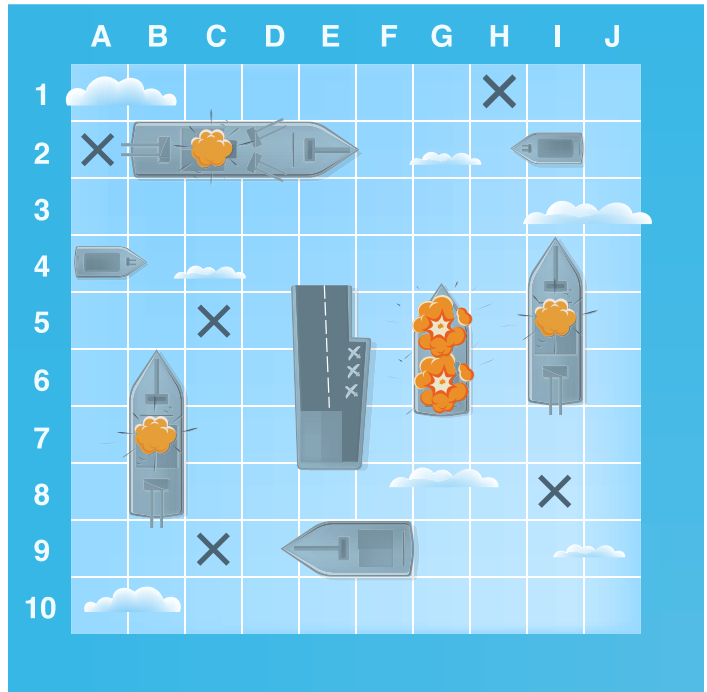
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# Complete a Table from a Graph

An ordered pair is a set of coordinates that tell you where a point is located on a graph. An ordered pair is written  $(x, y)$ . The  $x$  is the horizontal position on the  $x$ -axis and the  $y$  is the vertical position on the  $y$ -axis. Did you ever play the game Battleship? If so, you used coordinate pairs to try to sink your opponent's ships!

When you create a table from a graph, you write the ordered pairs that are located on the graph in table format. A table is created by writing the  $x$  and  $y$  values of each ordered pair or by writing points that fall on a line. A table can be horizontal or vertical.



Horizontal Table	Vertical Table																													
<table border="1"> <tr> <td style="padding: 5px;"><math>x</math></td> <td style="border: none;"> </td> <td style="border: none;"> </td> <td style="border: none;"> </td> <td style="border: none;"> </td> <td style="border: none;"> </td> <td style="border: none;"> </td> </tr> <tr> <td style="padding: 5px;"><math>y</math></td> <td style="border: none;"> </td> <td style="border: none;"> </td> <td style="border: none;"> </td> <td style="border: none;"> </td> <td style="border: none;"> </td> <td style="border: none;"> </td> </tr> </table>	$x$							$y$							<table border="1"> <tr> <td style="padding: 5px;"><math>x</math></td> <td style="padding: 5px;"> </td> <td style="padding: 5px;"><math>y</math></td> </tr> <tr> <td style="border: none;"> </td> <td style="border: none;"> </td> <td style="border: none;"> </td> </tr> <tr> <td style="border: none;"> </td> <td style="border: none;"> </td> <td style="border: none;"> </td> </tr> <tr> <td style="border: none;"> </td> <td style="border: none;"> </td> <td style="border: none;"> </td> </tr> <tr> <td style="border: none;"> </td> <td style="border: none;"> </td> <td style="border: none;"> </td> </tr> </table>	$x$		$y$												
$x$																														
$y$																														
$x$		$y$																												

When writing points from a graph, it is easiest to move from left to right in order not to skip a point.

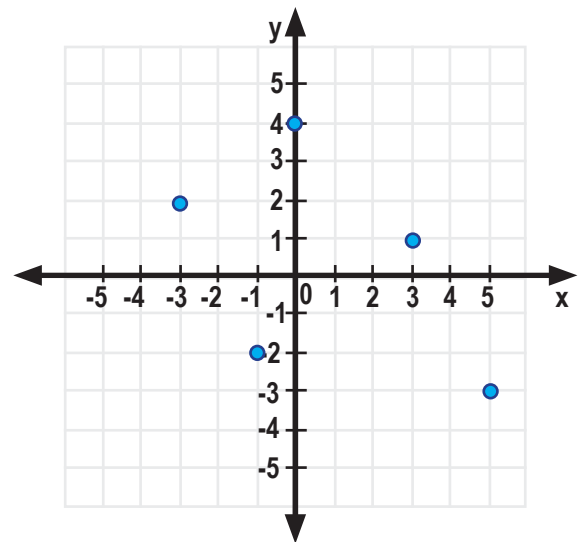
In this example, the points are written in a horizontal table.

X	-3	-1	0	3	5
Y	2	-2	4	1	-3

The set of points is  $\{(-3,2), (-1,-2), (0,4), (3,1), (5,-3)\}$ .

Notice that each ordered pair is lined up together in the table with the  $x$  and  $y$  value of the point.

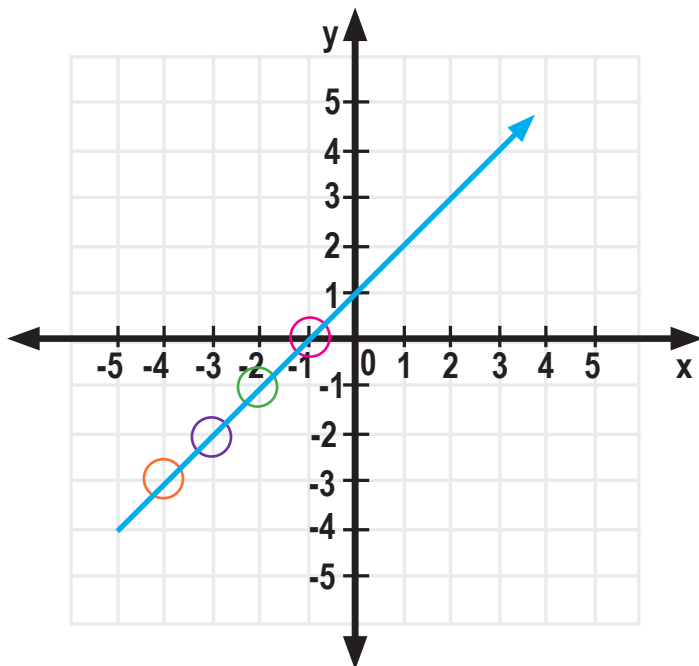
A graph can have a few points or a lot of points on it depending upon the amount of data that is collected.



But what happens if your graph has a line on it? There are not individual points to write the coordinate for! What should you do?

If you have a graph with a line or any other type of function, you can write points in a table by finding the cross marks. Cross marks are where the x and y points intersect. When the line passes directly through a cross mark, it is a point on the line. Remember that a line is made up of an infinite number of points.

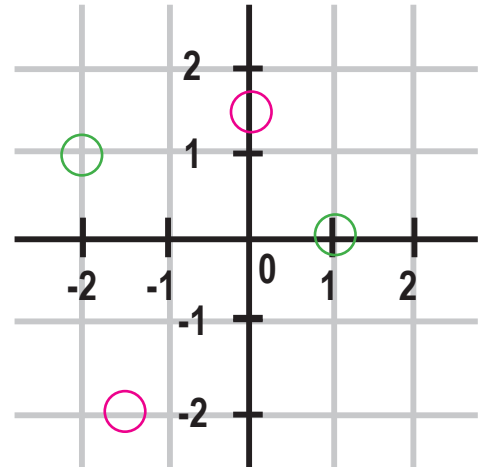
Let's look at an example of how to write points in a table when the graph is a line.



Here is an example with a vertical table.

X	Y
-5	-2
1	0
4	1

Cross mark

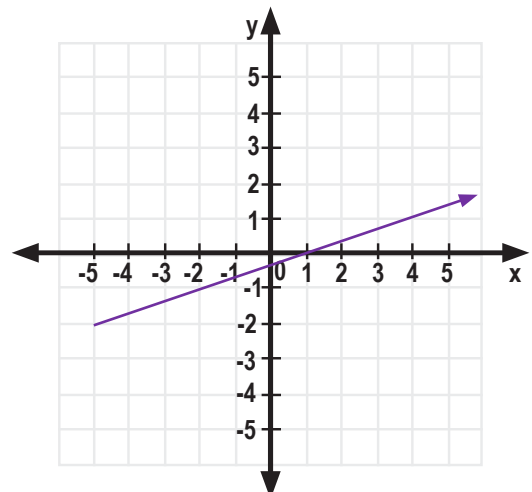


Not a cross mark

X	-4	-1	-2	-1	?
Y	-3	-2	-1	0	?

Notice that all of the points we chose go through a cross mark on the graph. Can you find the next point that could go in the table?

The correct answer is any of the points (0,1), (1,2), (2,3), (3,4), etc. You can put any point in the table that falls on the line and goes through a cross mark.





## Instructions

One person will draw a set of 4 points or a line and the other will create a table. Then switch roles!



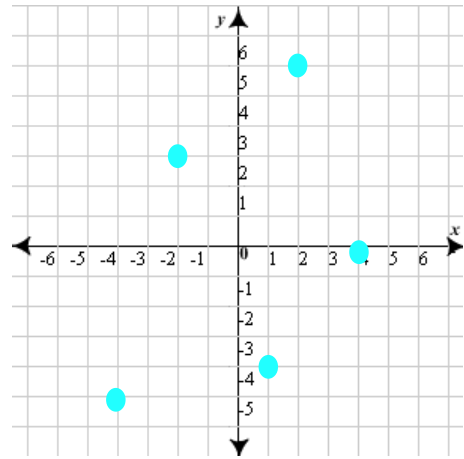

# Practice

Name \_\_\_\_\_ Date \_\_\_\_\_

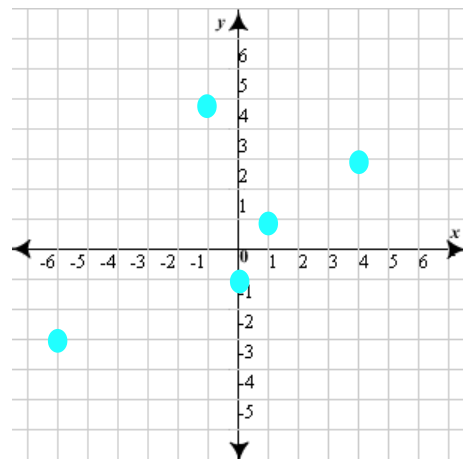
## Instructions

Complete the table using the graph.

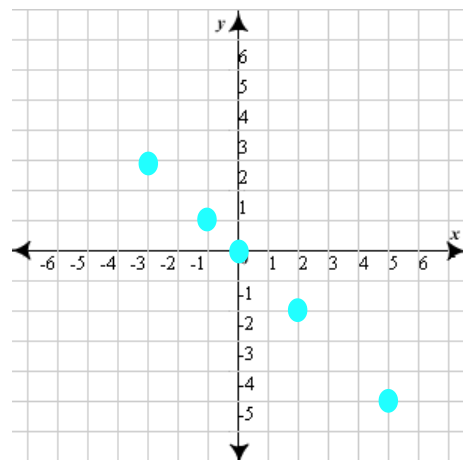
X					
Y					



X					
Y					



X					
Y					



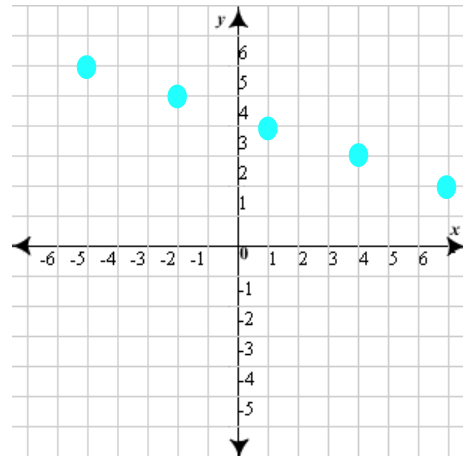


# Practice

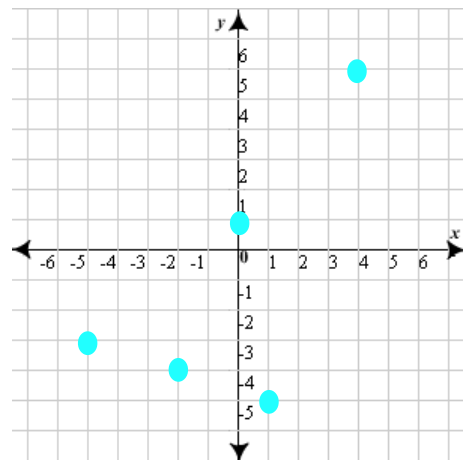
Name \_\_\_\_\_ Date \_\_\_\_\_



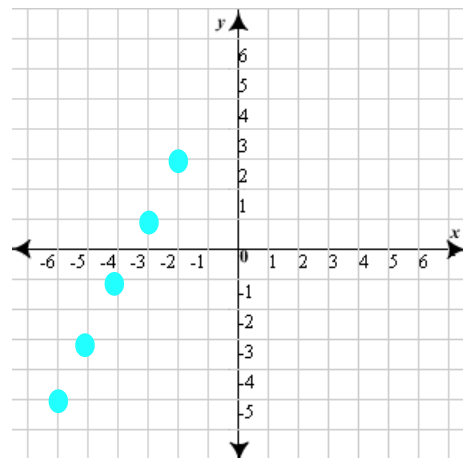
X					
Y					



X					
Y					



X					
Y					



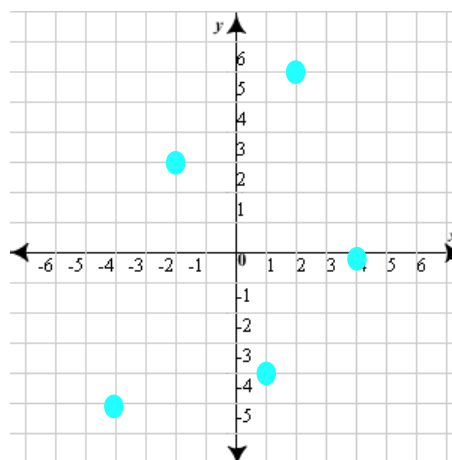




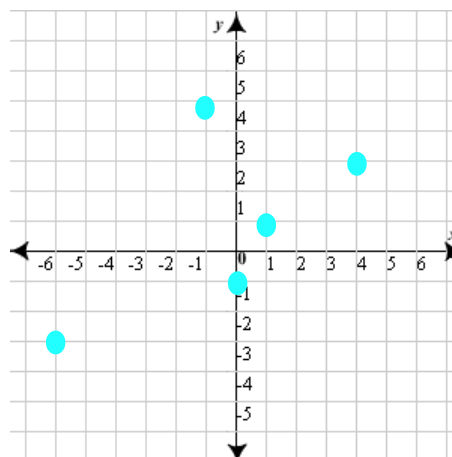
## Instructions

Complete the table using the graph.

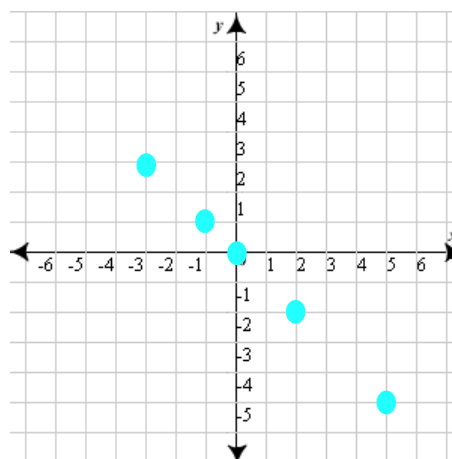
X	-4	-2	1	2	4
Y	-5	3	-4	6	0



X	-6	-1	4	0	1
Y	-3	5	3	-1	1



X	-3	-1	0	2	5
Y	3	1	0	-2	-5

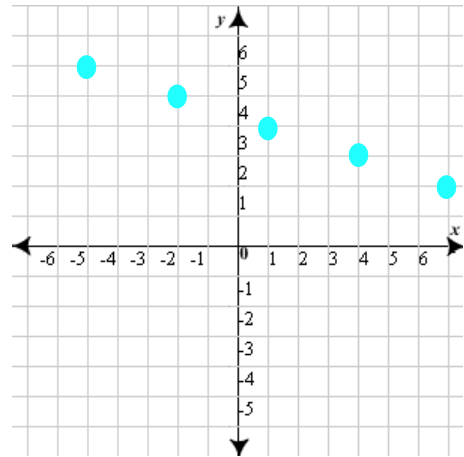




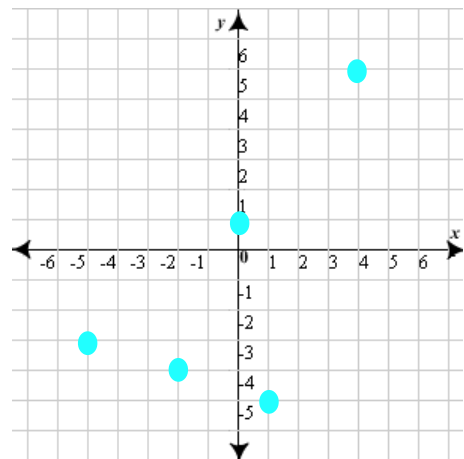
# Practice

Name \_\_\_\_\_ Answer Key \_\_\_\_\_ Date \_\_\_\_\_

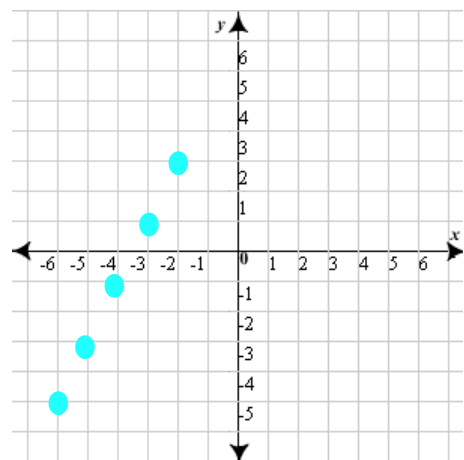
X	-5	-2	1	4	7
Y	6	5	4	3	2



X	-5	-2	0	1	4
Y	-3	-4	1	-5	6



X	-6	-5	-4	-3	-2
Y	-5	-3	-1	1	3





# Homework

Name \_\_\_\_\_ Date \_\_\_\_\_



## Instructions

Find three graphs on the internet or in the paper and create a table of 5 points in relation to each graph. Print the graph and attach it on this paper with your tables.



# QUIZ

Name \_\_\_\_\_ Date \_\_\_\_\_

## Instructions

Circle all of the correct answers.

An ordered pair is written  $(x,y)$   $(y,x)$ .

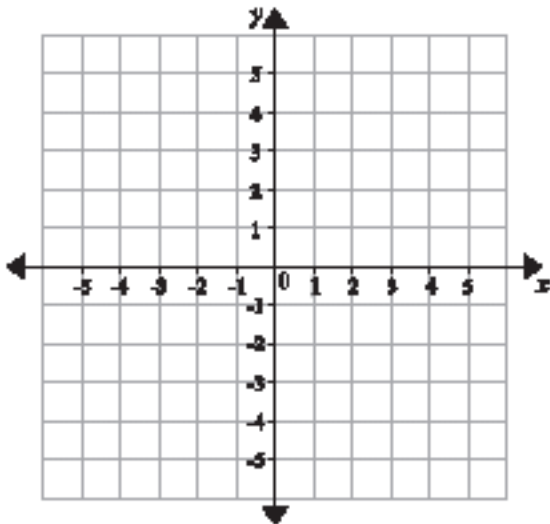
When writing a point from a graph, the point must fall on a *cross hair cross mark*.

You *can cannot* make a table from a line on a graph.

A table can be written *diagonally horizontally vertically*.

Each ordered pair is *lined up together randomly written* in the table.

Draw a table below and fill it in with the correct points





## Instructions

Circle all of the correct answers.

An ordered pair is written (x,y) (y,x).

When writing a point from a graph, the point must fall on a *cross hair* cross mark.

You can *cannot* make a table from a line on a graph.

A table can be written *diagonally* horizontally vertically.

Each ordered pair is lined up together *randomly written* in the table.

Draw a table below and fill it in with the correct points

x	-4	-2	2
y	-2	3	1