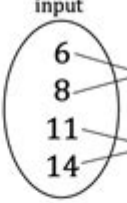
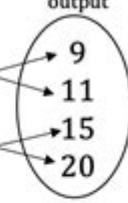
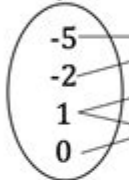

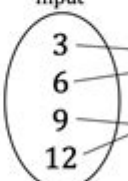
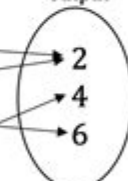


Identifying Functions Worksheet

Name: _____ Date: _____ Period: _____

RELATIONS AND FUNCTIONS *practice*

Directions: Determine whether each relation is a function.

<p>1.</p> <table border="1" style="margin: auto; text-align: center;"> <thead> <tr> <th style="padding: 5px;">x</th> <th style="padding: 5px;">y</th> </tr> </thead> <tbody> <tr><td style="padding: 5px;">5</td><td style="padding: 5px;">1</td></tr> <tr><td style="padding: 5px;">5</td><td style="padding: 5px;">2</td></tr> <tr><td style="padding: 5px;">5</td><td style="padding: 5px;">3</td></tr> <tr><td style="padding: 5px;">5</td><td style="padding: 5px;">4</td></tr> </tbody> </table>	x	y	5	1	5	2	5	3	5	4	<p>2.</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <p>input</p>  </div> <div style="text-align: center;"> <p>output</p>  </div> </div> <p>Mapping: 6 → 9, 8 → 11, 11 → 15, 14 → 20</p>		
x	y												
5	1												
5	2												
5	3												
5	4												
<p>3.</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <p>input</p>  </div> <div style="text-align: center;"> <p>output</p>  </div> </div> <p>Mapping: -5 → 2, -2 → 8, 1 → 7, 0 → 6</p>	<p>4.</p> <div style="text-align: center;"> $(-9, 4)$ $(2, 8)$ $(0, 1)$ $(6, 5)$ $(2, 3)$ </div>												
<p>5.</p> <table border="1" style="margin: auto; text-align: center;"> <thead> <tr> <th style="padding: 5px;">x</th> <th style="padding: 5px;">6</th> <th style="padding: 5px;">8</th> <th style="padding: 5px;">10</th> <th style="padding: 5px;">12</th> <th style="padding: 5px;">14</th> </tr> </thead> <tbody> <tr> <th style="padding: 5px;">y</th> <td style="padding: 5px;">-4</td> <td style="padding: 5px;">2</td> <td style="padding: 5px;">6</td> <td style="padding: 5px;">-4</td> <td style="padding: 5px;">11</td> </tr> </tbody> </table>	x	6	8	10	12	14	y	-4	2	6	-4	11	<p>6.</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <p>input</p>  </div> <div style="text-align: center;"> <p>output</p>  </div> </div> <p>Mapping: 3 → 2, 6 → 4, 9 → 6, 12 → 2</p>
x	6	8	10	12	14								
y	-4	2	6	-4	11								
<p>7.</p> <div style="text-align: center;"> $(-11, 14)$ $(-13, 14)$ $(3, 12)$ $(1, 14)$ $(8, 11)$ </div>	<p>8.</p> <table border="1" style="margin: auto; text-align: center;"> <thead> <tr> <th style="padding: 5px;">x</th> <th style="padding: 5px;">y</th> </tr> </thead> <tbody> <tr><td style="padding: 5px;">-9</td><td style="padding: 5px;">4</td></tr> <tr><td style="padding: 5px;">-8</td><td style="padding: 5px;">3</td></tr> <tr><td style="padding: 5px;">-8</td><td style="padding: 5px;">1</td></tr> <tr><td style="padding: 5px;">-6</td><td style="padding: 5px;">0</td></tr> <tr><td style="padding: 5px;">-4</td><td style="padding: 5px;">-3</td></tr> </tbody> </table>	x	y	-9	4	-8	3	-8	1	-6	0	-4	-3
x	y												
-9	4												
-8	3												
-8	1												
-6	0												
-4	-3												

© Lindsay Bowden, 2020

Identifying functions worksheet is a valuable educational resource designed to help students understand and master the concept of functions in mathematics. Functions are fundamental elements in algebra and are crucial for various advanced topics in math and science. This article will explore the importance of identifying functions, how to create an effective worksheet, various methods for identifying functions, and tips for teaching this concept effectively.

Understanding Functions

Before delving into identifying functions, it's important to understand what a function is. A function is a

relation between a set of inputs and a set of possible outputs where each input is related to exactly one output. In mathematical terms, a function can be expressed as $f(x)$, where x represents the input value and $f(x)$ represents the output value.

Key Characteristics of Functions

To identify functions, students should be aware of the following key characteristics:

1. Unique Output: For every input value, there is only one corresponding output value.
2. Domain and Range: The domain is the set of all possible input values, while the range is the set of all possible output values.
3. Vertical Line Test: A graphical method used to determine if a graph represents a function. If a vertical line intersects the graph at more than one point, it is not a function.

Creating an Identifying Functions Worksheet

An identifying functions worksheet typically includes various exercises designed to reinforce the concept of functions. Here's how to create an effective worksheet:

1. Include Definitions and Examples

Start the worksheet with a brief definition of a function and an example. This sets a clear foundation for the exercises that follow.

- Definition: A function is a relation where each input has exactly one output.
- Example: For the function $f(x) = 2x + 3$, if $x = 1$, then $f(1) = 5$.

2. Exercises for Identifying Functions

Incorporate different types of exercises in your worksheet:

- Multiple Choice Questions: Provide a list of relations and ask students to identify which ones are functions.
- Graphing: Include graphs and ask students to apply the vertical line test.
- Mapping Diagrams: Present mapping diagrams and have students identify whether they represent functions.

Sample Questions

1. Which of the following relations are functions?

- A. $\{(1, 2), (2, 3), (3, 4)\}$
- B. $\{(1, 2), (1, 3), (2, 4)\}$
- C. $\{(0, 1), (1, 1), (2, 1)\}$

2. Given the graph below, does it represent a function? (Include a graph.)

3. Examine the following mapping diagram and determine if it represents a function.

3. Real-World Applications

Incorporate examples of how functions are used in real life to make the worksheet more engaging.

- Examples:
- Economics: Supply and demand functions where price relates to quantity.
- Physics: Motion equations where time relates to distance traveled.

4. Provide Space for Work and Explanation

Include blank spaces or lines for students to show their work and explain their reasoning. This not only encourages deeper understanding but also allows teachers to assess student thought processes.

Methods for Identifying Functions

There are several methods to identify functions, each suitable for different types of problems. Understanding these methods will enhance students' skills in recognizing functions.

1. Using the Definition

The simplest method to identify a function is to refer to its definition. Students should check if each input value has one and only one output value. If they find any input with multiple outputs, it is not a function.

2. Vertical Line Test

When given a graph, students can apply the vertical line test:

- Draw vertical lines at various points along the x-axis.
- If any vertical line crosses the graph at more than one point, it is not a function.

3. Function Notation

Understanding and recognizing function notation is crucial. Students should learn how to interpret and analyze functions written in various forms, including:

- Algebraic Form: $f(x) = ax^2 + bx + c$
- Set Notation: $\{(x, f(x)) \mid x \in \text{Domain}\}$
- Table of Values: Analyzing tables to see if each x-value corresponds to a unique y-value.

4. Graphical Representation

Encourage students to sketch graphs of functions to visualize the relationships between input and output values. This can help solidify their understanding of the concept.

Teaching Tips for Identifying Functions

When teaching students how to identify functions, consider the following tips to enhance their learning experience:

1. Use Visual Aids

Visual aids, such as graphs, charts, and diagrams, can help students better understand functions. Use interactive tools like graphing calculators or software to visualize functions dynamically.

2. Incorporate Group Activities

Group activities can foster collaboration and discussion among students. Encourage them to work in pairs or

small groups to identify functions from various examples and share their findings with the class.

3. Provide Immediate Feedback

Offering immediate feedback on exercises can help students correct misconceptions early. Provide explanations for why a relation is or isn't a function, helping students learn from their mistakes.

4. Relate to Prior Knowledge

Connect new concepts to what students already know. For example, relate functions to previous topics like relations or equations, emphasizing how functions are a specific type of relation.

Conclusion

An identifying functions worksheet is not just a tool for practice; it is an essential resource that helps students grasp the fundamental concept of functions in mathematics. By incorporating various exercises, real-world applications, and effective teaching strategies, educators can enhance students' understanding and ability to identify functions. With a solid foundation in functions, students will be better equipped for future mathematical challenges and applications in various fields.

Frequently Asked Questions

What is an identifying functions worksheet used for?

An identifying functions worksheet is used to help students learn how to determine whether a set of ordered pairs, a graph, or a table of values represents a function.

How can you tell if a relation is a function from a graph?

A relation is a function if each vertical line drawn on the graph intersects the curve at most once, known as the vertical line test.

What are some common formats for identifying functions worksheets?

Common formats include multiple-choice questions, fill-in-the-blank exercises, graphing tasks, and matching pairs of relations to classify them as functions or not.

What are the key characteristics of a function?

A function must have exactly one output (y-value) for each input (x-value); there cannot be two different outputs for the same input.

Can you provide an example of a non-function using ordered pairs?

Yes, the set of ordered pairs $\{(1, 2), (1, 3)\}$ is not a function because the input '1' corresponds to two different outputs (2 and 3).

What educational level are identifying functions worksheets typically designed for?

Identifying functions worksheets are typically designed for middle school to early high school students, as they start learning about functions in algebra.

Find other PDF article:

<https://soc.up.edu.ph/52-snap/pdf?docid=LLf70-3543&title=sat-math-concepts-to-know.pdf>

Identifying Functions Worksheet

Yahoo

Jul 27, 2005 · News, email and search are just the beginning. Discover more every day. Find your yodel.

Yahoo Mail

The New Yahoo Mail.Smart, Clean, Powerful. Connect Your Gmail Create a New Yahoo Email

Yahoo News: Latest and Breaking News, Headlines, Liv...

The latest news and headlines from Yahoo News. Get breaking news stories and in-depth coverage with videos ...

Yahoo | Mail, Weather, Search, Politics, News, Finance ...

Latest news coverage, email, free stock quotes, live scores and video are just the beginning. Discover more every ...

Login - Sign in to Yahoo

Sign in to access the best in class Yahoo Mail, breaking local, national and global news, finance, sports, music, movies... You get more out of the web, you get ...

Combining the WEEKNUM and YEAR functions - Microsoft ...

May 9, 2025 · Hi, I'm trying to write a formula that would give me the week number and year for each date in a different column. Is there any way to combine the WEEKNUM and YEAR ...

My copilot says I reached the "daily limit" after one (1) image.

Apr 30, 2025 · However, today it only allowed one image. And after I got the message that the daily limit has been reached, ALL of my images every generated are replaced with a "Daily ...

Some of the Folders doesn't appear in New Outlook - Microsoft ...

Jan 12, 2024 · I could view mine in previous uses of New Outlook but they are no longer visible when opened today. Note also that New Outlook does not have the View tab menu selections ...

Display both Date and Time in Outlook - Microsoft Community

Hi TJBassett, If you mean you want to see the date and detailed time the emails coming as following? If yes, to show the date and time in the message preview, you can go to View > ...

After 29.05.25 Update no more signatures in new outlook!

May 29, 2025 · After the last Windows update today, all my signatures for New Outlook are gone. There is also no way to add individual signatures to all my different mail accounts anymore.

In OneNote the Search bar has moved, How do I put it back to ...

May 23, 2025 · I have been using OneNote for years, all of a sudden when I opened it up today, the Search bar has moved from its correct place on top of the pages list on the side, to now ...

My audio is not working today. I can hear others but my voice is ...

My audio is not working today. I can hear others but my voice is not audible to others. It only works with the headphones and not with the speaker. What do i do?

M365 Copilot-created file placed at unreachable URL: - Microsoft ...

Jun 25, 2025 · Funny - today, it is giving me downloadable links, so far for PDF and PPT. The output hasn't been great, but I can now download what it's trying to create.

OneDrive: how to do an intra-file search for a keyword in a folder ...

Apr 20, 2023 · OneDrive: how to do an intra-file search for a keyword in a folder with many files without opening the files one by one

I just scanned a document from my printer. Where do I find them, ...

When I scan a document on my printer, where do I find it?

Unlock the secrets of math with our comprehensive identifying functions worksheet! Perfect for students and educators. Discover how to master this essential skill today!

[Back to Home](#)