**Introduction to Functions**

**Objective**: SWBAT determine if a \_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, or \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ or a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**Helpful Hint!**

|  |  |
| --- | --- |
| **X** | **Y** |
| D | R |
| I | O |
| I | D |
| X | Y |

**Key terms**

|  |  |
| --- | --- |
| **Term** | **Definition** |
| Function |  |

**Types of Functions**

|  |  |  |
| --- | --- | --- |
| **Mapping: YES** | **https://upload.wikimedia.org/wikipedia/commons/thumb/d/d1/Cubicpoly.png/200px-Cubicpoly.pngGraph: YES** | **Table: YES** |
| **NO** | **NO** | **NO** |

**We Do – Guided Practice**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Example 1)** Determine if the following mapping represents a function by using the 1-to-1 test and a table. Justify your answer.

|  |  |
| --- | --- |
| **Input** | **Output** |
|  |  |
|  |  |
|  |  |
|  |  |

**Justification:**  | **2)** Determine if the following mapping represents a function by using the 1-to-1 test and a table. Justify your answer.**Justification**: |
| **3)** Determine if the following mapping represents a function by using the 1-to-1 test and a table. Justify your answer.

|  |  |
| --- | --- |
| **Input** | **Output** |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

 | **Example 4)** Determine if the following ordered pairs {(2,3), (-2,3), (4,7), (2,4), (-2,3)} represents a function. Justify your answer.**Justification:** | **5)** Determine if the following order pairs {(0,3),(1,3),(2,3),(-1,-3), (3,7)} represents a function. Justify your answer.**Justification:** |

**You Do**

Do at least 10 out of the 12 problems. Make sure to use resources and check your work as you go!

|  |  |  |
| --- | --- | --- |
| **1)** Determine if the following mapping represents a function by using the 1-to-1 test and a table. Justify your answer.**Justification:** | **2)** Simplify:$$-\left(x+3\right)+4\left(3x+2y\right)-3y$$ | **3)** Determine if the following order pairs {(3,3),(-3,3),(3,1)} represents a function. Justify your answer.**Justification:** |
| **4)** Find the perimeter of the rectangle below.$3x+3$$$-2x+4$$ | **5)** Determine if the following ordered pairs {(4,2), (-3,3),(6,1),(2,3)} represents a function. Justify your answer.**Justification:** | **6)** Determine if the following mapping represents a function by using the 1-to-1 test and a table. Justify your answer.**Justification:** |
| **7)** Determine if the following mapping represents a function by using the 1-to-1 test and a table. Justify your answer.**Justification:** | **8)** Determine if the graph is a function or relation. https://upload.wikimedia.org/wikipedia/commons/thumb/d/d1/Cubicpoly.png/200px-Cubicpoly.png | **9)** Solve: $ 2(x +2) = -3(x –2)$ |
| **10)** Determine if the following mapping represents a function by using the 1-to-1 test and a table. Justify your answer.**Justification:** | **11)** Simplify: $$4-2\left(x+3\right)+5x$$ | **12)** Determine if the graph below represents y as a function of xhttp://dl.uncw.edu/digilib/mathematics/algebra/mat111hb/functions/graphs/sidequad.gif |