**Warm-Up**

Function Operations

1. If

**Student-Produced Response: Use the grid to bubble in your answer.**

1.



**Critical Thinking**

**Lesson 7-7: Inverses Relations & Functions**

|  |  |
| --- | --- |
| Algebra Objective | Students will be able to find the inverse of a relation or function. |
| Language Objective | C:\Users\Amber\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\Y1HPRU6G\MC900357853[1].wmfStudents will sequence inverse operations with a partner. |

**Vocabulary Bites**

* An \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is an operation that undoes another.

Subtraction is the ***inverse*** of \_\_\_\_\_\_\_\_\_\_\_\_\_\_

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is the ***inverse*** of multiplication.

A square root is the ***inverse*** of a \_\_\_\_\_\_\_\_\_\_\_\_\_.

The inverse of a function may or may not be a function.

The diagram shows a relation(a function) and its ***inverse*** (not a function). The *range* of the relation is the *domain* of the ***inverse***. The *domain* of the relation is the *range* of the ***inverse***.



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| --- | --- | --- | --- | --- |
| ***One-to-One Function*** |  | ***Function, but not one-to-one*** |  | ***Non-function*** |
|  |  |  |  |  |  |  |  |
| 0 | 2 |  | 0 | 2 |  | 1 | 2 |
| 1 | 3 |  | 1 | 3 |  | 2 | 3 |
| 2 | 4 |  | 2 | 2 |  | 1 | 4 |

* A ***function*** is a relationship in which each *input*\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ *output*.
* A \_\_\_\_\_\_\_\_\_-\_\_\_\_- \_\_\_\_\_\_\_\_\_ ***function*** is a relationship in which \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ *input* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ *output*.
* An ***inverse*** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, represented by, undoes (or *reverses*) another function by switching the order of each *input* and *output*, so that each.













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**You Try:** 







**You Try:**

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**L7-7 CLASSWORK**Inverse Relations & Functions

***Directions*:** Identify the vertex of each function. Find the inverse of the function and the vertex of the inverse.

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| --- | --- | --- |
|  | ***Original***  | ***Inverse***  |
|  |  |  |
|  |  |  |
| Vertex: |  |  |

 |

|  |  |  |
| --- | --- | --- |
|  | ***Original***  | ***Inverse***  |
|  |  |  |
|  |  |  |
| Vertex: |  |  |

 |
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|  |  |  |
| --- | --- | --- |
|  | ***Original***  | ***Inverse***  |
|  |  |  |
|  |  |  |
| Vertex: |  |  |

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|  |  |  |
| --- | --- | --- |
|  | ***Original***  | ***Inverse***  |
|  |  |  |
|  |  |  |
| Vertex: |  |  |

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| 1. #TKO

|  |  |  |
| --- | --- | --- |
|  | ***Original***  | ***Inverse***  |
|  |  |  |
|  |  |  |
| Vertex: |  |  |

 | 1. #TKO

|  |  |  |
| --- | --- | --- |
|  | ***Original***  | ***Inverse***  |
|  |  |  |
|  |  |  |
| Vertex: |  |  |

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**L7-7 HOMEWORK**

Inverses Relations & Functions

Vertex Form

Mixed Review

**Identify the vertex of each function. Convert each to standard form.**

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Find the inverse of each relation. Graph the given relation and its inverse.

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Find the inverse of each function. Is the inverse a function?

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GO

Find the inverse of each function, then sketch the original function and its inverse.

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For each function, find the inverse and the domain and range of the function and its inverse. Determine whether the inverse is a function.