**Algebra II** **Section 7.2**
**Auch** **Date:**

**Objectives**

- Graph and recognize inverses of relations and functions
- Find inverses of functions

**Vocabulary**

-Inverse relation
-Inverse function

**Example 1**

Graph the relation and connect the points. Then graph the inverse. Identify the domain and range of each relation.

| x | 2 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|
| y | 0 | 1 | 2 | 4 | 8 |

***Try it!***

Graph the relation and connect the points. Then graph the inverse. I dentify the domain and range of each relation.

| x | 1 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|
| y | 0 | 1 | 2 | 3 | 5 |



**Example 2**

**Writing Inverse functions by Using Inverse Operations**

$f(x) = 2x$

***Try it!***

**Writing Inverse functions by Using Inverse Operations**

$f(x) = \frac{x}{3}$ $\qquad$ $f(x) = x + \frac{2}{3}$

**Example 3**

**Writing Inverses of Multi-Step Functions**

$f(x) = \frac{x}{4} - 5$

***Try it!***

**Writing Inverse functions by Using Inverse Operations**

$f(x) = 5x - 7$

**Example 4**

**Writing and Graphing Inverse Functions**

**Graph $f(x) = 3x + 6$, then write the inverse and graph.**

***Try it!***

**Graph $f(x)=\frac{2}{3}x+2$, then write the inverse and graph.**



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