DEFINITIONS:

DOMAIN: A list of every **x-value** in a table, graph, mapping, or set of ordered pairs.

RANGE: A list of every **y-value** in a table, graph, mapping, or set of ordered pairs.

Example 1: Example 2:

|  |
| --- |
| *x* |

|  |
| --- |
| *y* |

|  |
| --- |
| *O* |

|  |
| --- |
| 2 |

|  |
| --- |
| 2 |

|  |  |
| --- | --- |
| *x* | *y* |
| 3 | -4 |
| -1 | 7 |
| -6 | -8 |
| 1 | 11 |
| 4 | 13 |

The DOMAIN is The DOMAIN is

The RANGE is The RANGE is

EXAMPLE 3: EXAMPLE 4:

3

-2

4

0

-1

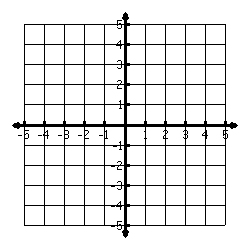
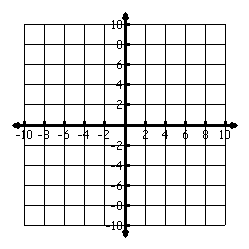
-2

The DOMAIN is The DOMAIN is

The RANGE is The RANGE is

Using inequalities we can show the domain and range of a graphed relation.

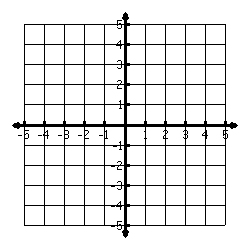
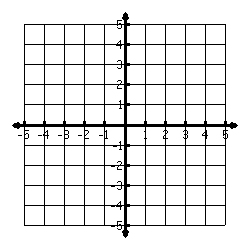
Example 5: Example 6:



The DOMAIN is The DOMAIN is

The RANGE is The RANGE is

EXAMPLE 7: Is this a function? EXAMPLE 8:



The DOMAIN is The DOMAIN is

The RANGE is The RANGE is

**WATCH OUT!!**

* Remember that Domain and Range is a property/characteristic of a function. If a representation is not a function then you cannot list the domain and range.
* Do not list any number twice in the same list—unless it has different signs.

Practice 1: Practice 2:--WATCH OUT!!

|  |
| --- |
| *x* |

|  |
| --- |
| *y* |

|  |
| --- |
| *O* |

|  |
| --- |
| 2 |

|  |
| --- |
| 2 |

|  |  |
| --- | --- |
| *x* | *y* |
| 5 | 2 |
| -1 | 5.8 |
| -2 | 6 |
| 1 | 18 |
| 8 | 0 |

The DOMAIN is x: The DOMAIN is

The RANGE is y: The RANGE is

Practice 3: Practice 4:--Watch Out!!

-17

-125

402

80

-16

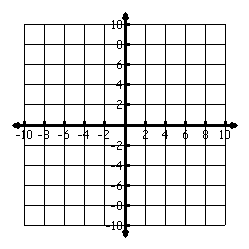
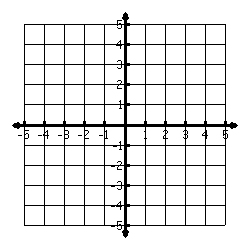
-202

{(-2, 7), (-2, 5), (-2, -2), (2, 0)}

The DOMAIN is The DOMAIN is

The RANGE is The RANGE is

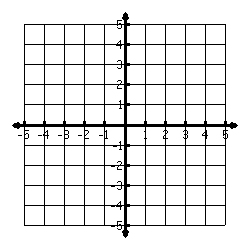
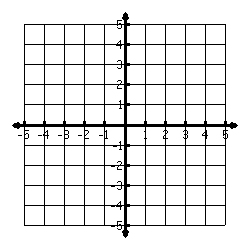
Practice 5: Practice 6:



The DOMAIN is The DOMAIN is

The RANGE is The RANGE is

Practice 7: Practice 8:



The DOMAIN is The DOMAIN is

The RANGE is The RANGE is

**Domain and Range Homework**

Find the range of each function when the domain is given.

1. 2. Domain = Domain =

3. y = -4x – 2 4. y = 2x – 5 Domain = {-2, -1, 1, 2} Domain = {-1, 1, 3, 5}

5. y = 5x + 3 6. y = -½ x + 1

Domain = {1, 2, 3, 4} Domain = {3, 6, 9, 12}

7. y = ⅔x + 2 8. y = ¾x – 3

Domain = {2, 4, 6, 8} Domain = {0, 7,14,21}

9. y = ⅓x – 1 10. y = ¼x + 7

Domain={-10,-5,5,10} Domain = { -4, 0, 4, 8}