Move the Monster

Pre-AP Algebra 2 Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Given: 



|  |  |
| --- | --- |
| x | y |
| -3 | 0 |
| -1 | -3 |
| 0 | 1 |
| 1 | 0 |
| 2 | 1 |
| 3 | 0 |

Using the above table and graph, complete the following transformations by graphing the transformed function, filling out the table, giving an explanation of the transformation, and listing the domain and range.

1. *g(x) = h(x) + 2*

Graph: *g(x)*  Explanation:



Write a verbal description of the transformation of h(x).

Domain:

Range:

|  |  |  |  |
| --- | --- | --- | --- |
| New x | Original x | Original y | New y  |
|  | -3 | 0 |  |
|  | -1 | -3 |  |
|  | 0 | 1 |  |
|  | 1 | 0 |  |
|  | 2 | 1 |  |
|  | 3 | 0 |  |

1. *g(x) = h(x) – 2*

Explanation:

Write a verbal description of the transformation of h(x).

Domain:

Range:

|  |  |  |  |
| --- | --- | --- | --- |
| New x | Original x | Original y | New y  |
|  | -3 | 0 |  |
|  | -1 | -3 |  |
|  | 0 | 1 |  |
|  | 1 | 0 |  |
|  | 2 | 1 |  |
|  | 3 | 0 |  |

Graph: *g(x)*

1. *g(x) = h(x + 2)*

Graph: *g(x)*

Write a verbal description of the transformation of h(x).

Domain:

Range:



|  |  |  |  |
| --- | --- | --- | --- |
| New x | Original x | Original y | New y  |
|  | -3 | 0 |  |
|  | -1 | -3 |  |
|  | 0 | 1 |  |
|  | 1 | 0 |  |
|  | 2 | 1 |  |
|  | 3 | 0 |  |

1. *g(x) = h(x – 2)*

Graph: *g(x)* Table: *g(x)*

Write a verbal description of the transformation of h(x).

Domain:

Range:

|  |  |  |  |
| --- | --- | --- | --- |
| New x | Original x | Original y | New y  |
|  | -3 | 0 |  |
|  | -1 | -3 |  |
|  | 0 | 1 |  |
|  | 1 | 0 |  |
|  | 2 | 1 |  |
|  | 3 | 0 |  |



1. *g(x) = h(x – 1) + 3*

Explanation:

Write a verbal description of the transformation of h(x).

Domain:

Range:

|  |  |  |  |
| --- | --- | --- | --- |
| New x | Original x | Original y | New y  |
|  | -3 | 0 |  |
|  | -1 | -3 |  |
|  | 0 | 1 |  |
|  | 1 | 0 |  |
|  | 2 | 1 |  |
|  | 3 | 0 |  |

Graph: *g(x)*



1. *g(x) = – h(x)*

Graph: *g(x)*



Write a verbal description of the transformation of h(x).

Domain:

Range:

|  |  |  |  |
| --- | --- | --- | --- |
| New x | Original x | Original y | New y  |
|  | -3 | 0 |  |
|  | -1 | -3 |  |
|  | 0 | 1 |  |
|  | 1 | 0 |  |
|  | 2 | 1 |  |
|  | 3 | 0 |  |

1. *g(x) = h(- x)*

Write a verbal description of the transformation of h(x).

Domain:

Range:

Graph: *g(x)*



|  |  |  |  |
| --- | --- | --- | --- |
| New x | Original x | Original y | New y  |
|  | -3 | 0 |  |
|  | -1 | -3 |  |
|  | 0 | 1 |  |
|  | 1 | 0 |  |
|  | 2 | 1 |  |
|  | 3 | 0 |  |

8.  *g(x) = h(-(x+3))*

Write a verbal description of the transformation of h(x).

Domain:

Range:

|  |  |  |  |
| --- | --- | --- | --- |
| New x | Original x | Original y | New y  |
|  | -3 | 0 |  |
|  | -1 | -3 |  |
|  | 0 | 1 |  |
|  | 1 | 0 |  |
|  | 2 | 1 |  |
|  | 3 | 0 |  |

Graph: *g(x)*



*9. g(x) = 2h(x)*

Write a verbal description of the transformation of h(x).

Domain:

Range:

|  |  |  |  |
| --- | --- | --- | --- |
| New x | Original x | Original y | New y  |
|  | -3 | 0 |  |
|  | -1 | -3 |  |
|  | 0 | 1 |  |
|  | 1 | 0 |  |
|  | 2 | 1 |  |
|  | 3 | 0 |  |

Graph: *g(x)*



*10. g(x) = *

Graph: *g(x)*

Write a verbal description of the transformation of h(x).

Domain:

Range:

|  |  |  |  |
| --- | --- | --- | --- |
| New x | Original x | Original y | New y  |
|  | -3 | 0 |  |
|  | -1 | -3 |  |
|  | 0 | 1 |  |
|  | 1 | 0 |  |
|  | 2 | 1 |  |
|  | 3 | 0 |  |



*11. g(x) = h(2x)*

Graph: *g(x)*

Write a verbal description of the transformation of h(x).

Domain:

Range:

|  |  |  |  |
| --- | --- | --- | --- |
| New x | Original x | Original y | New y  |
|  | -3 | 0 |  |
|  | -1 | -3 |  |
|  | 0 | 1 |  |
|  | 1 | 0 |  |
|  | 2 | 1 |  |
|  | 3 | 0 |  |

*12. g(x) =*$h(\frac{1}{2}x)$

Graph: *g(x)*

Write a verbal description of the transformation of h(x).

Domain:

Range:

|  |  |  |  |
| --- | --- | --- | --- |
| New x | Original x | Original y | New y  |
|  | -3 | 0 |  |
|  | -1 | -3 |  |
|  | 0 | 1 |  |
|  | 1 | 0 |  |
|  | 2 | 1 |  |
|  | 3 | 0 |  |



**Verbal Description Word Bank**

Vertical shift up

Vertical shift down

Vertical stretch

Vertical compression

Vertical reflection (over x-axis)

Horizontal shift left

Horizontal shift right

Horizontal stretch

Horizontal compression

Horizontal reflection (over y-axis)