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| **Topic 2.12: Logarithmic Function Manipulation** | **Transformations** |
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**Practice Problem 1**

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| The function , is given by the g. The function is given by . Which of the following would correctly describe a transformation for which the graph of is the image of the graph of ?  (a) A horizontal dilation by a factor of 6  (b) A horizontal dilation by a factor of  (c) A vertical dilation by a factor of 6  (d) A vertical dilation by a factor of |

**Practice Problem 2**

The function is given by , where b, c, and d are all positive integers. Which of the following is an equivalent representation of ?

(a)

(b)

(c)

(d)

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| **Practice Problem 1 Solution:**  (c) A vertical dilation by a factor of 6.  Using the property: , you can rewrite . Since , then the image is a **vertical** translation of by a factor of 6. |
| **Practice Problem 2 Solution:**  (c)  Using the property: , (c) would be the answer. |

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