

Exercise 63

For the following exercises, write a formula for the function g that results when the graph of a given toolkit function is transformed as described.

The graph of $f(x) = |x|$ is reflected over the y -axis and horizontally compressed by a factor of $\frac{1}{4}$.

Solution

To reflect the graph of $f(x)$ over the y -axis, replace x with $-x$. Then to horizontally compress by a factor of $\frac{1}{4}$, replace x with $4x$.

$$g(x) = |-4x| = |4x|$$

