Rigid Translation and Transformations Practice

This is practice for the analytic view of rigid translations and transformations.

Problem 1 *Consider the translation and/or transformation of the function $f(x)$ given by*

$$g(x) = 7f(5\,x + 6) + (-8).$$

If the point $(-6, 9)$ is on the graph of $f(x)$, what point must be on the graph of $g(x)$? $(\boxed{-\frac{12}{5}}, \boxed{55})$.

Problem 2 *Consider the translation and/or transformation of the function $f(x)$ given by*

$$g(x) = 8f(-9\,x + 3) + (-4).$$

If the point $(0, 2)$ is on the graph of $f(x)$, what point must be on the graph of $g(x)$? $(\boxed{\frac{1}{3}}, \boxed{12})$.

Problem 3 *Consider the translation and/or transformation of the function $f(x)$ given by*

$$g(x) = -9f(-4\,x - 7) + (-10).$$

If the point $(-8, -10)$ is on the graph of $f(x)$, what point must be on the graph of $g(x)$? $(\boxed{\frac{1}{4}}, \boxed{80})$.

Problem 4 *Consider the translation and/or transformation of the function $f(x)$ given by*

$$g(x) = -2f(4\,x + 4) + (0).$$

If the point $(6, 8)$ is on the graph of $f(x)$, what point must be on the graph of $g(x)$? $(\boxed{\frac{1}{2}}, \boxed{-16})$.

Learning outcomes:

If you are having trouble figuring out how these work, try watching these videos for an explanation!

YouTube link: https://www.youtube.com/watch?v=nWBnfpSbjQw

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