

Compositions of Functions and Their Graphs ¹

Let $f(x) = x^3 - 4x^2 + x - 1$.

1. Use the `ezplot` function to plot a graph of this function on the interval $[-2, 4]$. (Instructions for `ezplot` are in the “Graphing Functions with MATLAB” Exercise.)
2. Let $g(x) = x + 1$. Find formulas for $g \circ f$ and $f \circ g$ (do this by hand).
3. Use `ezplot` to plot the graphs of $f \circ g$ and $g \circ f$ on the same plot as the graph of f .
4. Correctly label the three functions as “ f ,” “ $g(f)$ ” (for $g \circ f$) and “ $f(g)$ ” (for $f \circ g$).
5. Add the title “MATLAB Compositions of Functions” to your picture.
6. If this MATLAB exercise is being counted in your grade, then print this figure for submission.

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