

Problem. Consider the function $f(x) = \frac{x^2 - 8x}{x + 1}$. Sketch a graph of $f(x)$ by considering the following pieces of information: the roots of $f(x)$; vertical and horizontal asymptotes; critical points, maxima, and minima; increasing and decreasing intervals; points of inflection; and concavity intervals. You should clearly catalogue all of these data before attempting your graph.