

In order to better understand the glass frog's fertilization habits, scientists performed a study and recorded the average number of frog eggs over the span of 44 months.

Scientists model number of frog eggs over 44 months with the function

$f(x) = .2319x^4 - 20.236x^3 + 540.05x^2 - 4378.6x + 10604$ , where  $f(x)$  represents the number of frog eggs, on the  $x$ th month since the scientist started recording the data.

a) Use the following window in your graphing calculator to sketch the shape of the function: [0, 50, 5, -5000, 20000, 5000]

b) Determine the domain and range of the function  $p(x)$ . Write your answers using interval notation.

c) Determine the practical domain and range of  $p(x)$  in the context of the problem. Write your answers using interval notation. Explain how you know.

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