6. [10 points] The distance between two points \((x_1, y_1)\) and \((x_2, y_2)\) is given by

\[
D = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}.
\]

Consider the curve described by \(y = \sqrt{3x^2 - 3}\), over the domain \(2 \leq x \leq 4\). What is the average distance of the points on this curve to the point \((2, 0)\)?