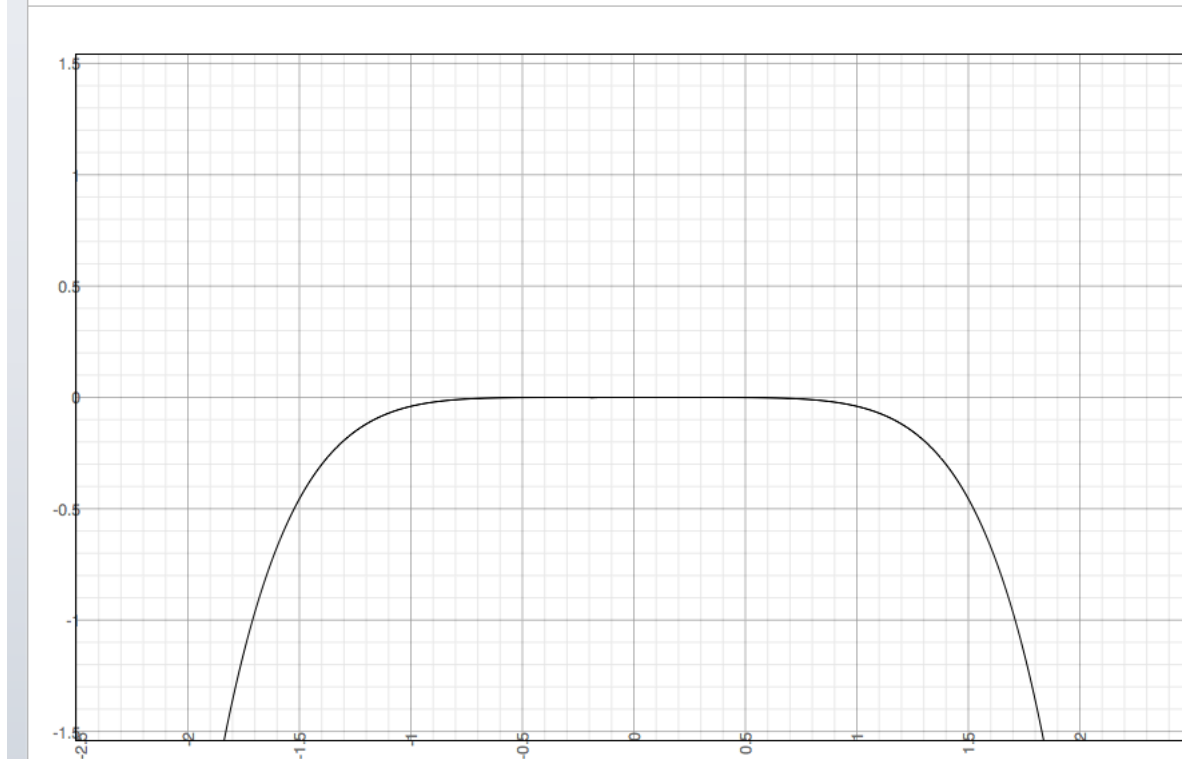


$$y = x^2 - .04x^4$$



My Mac Laptop has an application called Grapher. When I ask it to graph $y = x^2 - (.04)x^4$ I get the picture above. This graph is wrong at a number of different levels!

Please answer and compare:

As read off from

- a) What does the graph say the value of the first derivative is at zero?
What does analysis of the formula say?
- 2 a) What does the graph say about the value of the second derivative at zero?
b) What is the value of the second derivative, according to the formula?
3. A) What does the graph say about the value of the function positive for x near zero, $x \neq 0$?
b) What about the actual function? Is it positive or negative for x small, near zero.
4. a) What does the graph indicate about the limit of $y(x)$ as $x \rightarrow \infty$?
b) What is true about the actual function as given by the formula, about the limit $y(x)$ as $x \rightarrow \infty$?
- 5a) What does the graph say the value of the function is when $x = 1$?
5 b) What is the value of y when $x = 1$ according to the formula?