Exercises

1. Confirm l'Hôpital's example: $\lim_{x \to 1} \dfrac{(2x - x^4)^{1/2} - x^{1/3}}{1 - x^{3/4}} = \dfrac{16}{9}$

2. *Jeopardy!* The answer to a derivative problem is $5x^4 + 6x^{-1} + \cos(7x) - 8xe^{x^2}$. What was the question?

3. The sum of two positive real numbers is 16. What is the smallest possible value of the sum of their squares? [4.7 Exercise 4]