

13 January 2015

1. What are the names of the members of your group?
2. Recall the following differentiation rules with your group and write down the formulas. Then, come up with a function that would require the rule to differentiate it, and finally, differentiate that function.
 - (a) Power rule
 - (b) Exponential rule
 - (c) Product rule
 - (d) Quotient rule
 - (e) Chain rule
 - (f) Show that (d) is nothing more than (c) followed by (e) followed by (a)
3. What are each person in your group's favorite books, music, TV shows, movies, video games, etc...?

4. Find the derivatives below. Assume k and a are constants.

(a) Find $\frac{d}{dx}g(x)$ for $g(x) = x^k + k^x$

(b) Find $\frac{d}{dx}f(x)$ for $f(x) = \frac{x^3}{9}(3\ln(x) - 1)$

(c) Find $\frac{d}{dv}h(v)$ for $h(v) = e^{\tan(\sin v)}$

(d) Find $\frac{d}{ds}f(s)$ for $f(s) = \frac{a^2 - s^2}{\sqrt{a^2 + s^2}}$

5. Where have people in your group traveled to outside of the USA?

6. Find all critical points for $f(x) = x - \ln x$. Then find the global minimum and maximum on the interval $0.1 \leq x \leq 2$.

7. Share with your group : What is your current major of study, what you would like to achieve in ESP, and what do you see yourself doing after college? What you think is most important about a college education? Make a list of your favorite responses.