

Please read the following instructions carefully:

- There are **three problems** in this quiz.
- The point distribution is given in the table below.
- Please write each solution on a separate page.
- This is a group quiz. Feel free to discuss the problems with your teammates. **You must, however, write and turn in your own work.**
- Upload your work to Gradescope.

Question:	1	2	3	Total
Points:	2	4	4	10

1. (2 points) Solve for x in the following equation:

$$\frac{2^{-3x+2}}{2^{x-5}} = 2^x$$

2. (4 points) Find the critical points of

$$y = x^2 e^{3x}$$

3. (4 points) Find the derivative of

$$f(x) = \ln(x^4(4x - 2)^3)$$

Once you've taken the derivative, you do not need to simplify further.