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Weekly Problem Set #6

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Do the problems in separate pieces of paper. $\boxed{\text{Box}}$ your final answer. **Show all your work and write your answers in simplest form. Always write the exact answer, instead of a decimal approximation, unless instructed otherwise. All numbered problems are worth 4 points unless indicated otherwise.**

After you're done, scan all pages your solution, in the correct order, into a single PDF file and submit on Canvas. The deadline is 11:59 p.m. on Thursday, October 15.

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1. Solve the equation. Be sure to write your answer in the most simplified form.

$$8^x = 4^{2x-5}$$

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2. Find all solution(s) of the following equation. Round your answer to four decimal places.

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

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3. Solve the equation:

$$\ln(x - 1) = \ln(x + 5) + \ln(x + 1)$$