Instructions. Show all work, with clear logical steps. No work or hard-to-follow work will lose points. **Give an exact answer unless otherwise noted.**

Problem 1. (5 points) Evaluate

$$\int_2^7 \frac{1}{1-t}\, dt.$$

Problem 2. (5 points) It is estimated that t weeks from now the average price of a gallon of gas will be increasing at a rate of

$$p'(t) = \frac{t}{t^2 + 19}.$$

If the average price of a gallon of gas is \$2.13, what will the average price of a gallon of gas be 9 weeks from now? Give your answer to the nearest cent.

Problem 3. (Up to 1/0 points) Approximate e to 15 decimal place accuracy.