

Math 2001 Assignment 27

Your name here

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Problem 1. Scheinerman, §15, #7abcf

Problem 2. Find an equivalence relation on $\{1, 2, 3, 4, 5, 6\}$ whose equivalence classes are $\{1, 4, 5\}$, $\{2, 6\}$, and $\{3\}$.

Problem 3. Scheinerman, §15, #8bd

Problem 4. Scheinerman, §15, #11

Problem 5. Scheinerman, §15, #16

Problem 6. Let $f(x) = e^{e^x - 1}$.

- (i) Compute $f(0)$, $f'(0)$, $f''(0)$, $f'''(0)$, and $f''''(0)$. (The notation f' means the derivative of f , the notation f'' means the derivative of the derivative of f , etc.)
- (ii) Predict the number of equivalence relations on a set with 5 elements.

It is possible to do this problem by hand, but you may use a computer if you want. You could try [Wolfram Alpha](#), for example.