Math 2001 Assignment 19

Your name here

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Problem 1. Scheinerman, §22, #4e

Problem 2. Scheinerman, §22, #9

Definition 3. When n and k are natural numbers such that $k \leq n$, we define $\binom{n}{k} = \frac{n!}{k!(n-k)!}$.

Problem 4. Prove that

$$\binom{n}{k} + \binom{n}{k+1} = \binom{n+1}{k+1}$$

for any natural numbers n and k such that $k+1 \leq n$. (This problem does not require induction.)

Problem 5. Scheinerman, §22, #11. (Hint: Use the previous exercise.)

Problem 6. Scheinerman, §22, #16d