This is a review sheet for the final, updated from one I wrote a few years ago. If there are any inconsistencies with my remarks on your HW page, you should probably trust the HW page, or contact me asap. The final will cover the entire course - lectures, homework, and reading. About 40 to 50% of it will cover recent topics [roughly that means topics after Exam 3], but this page is mainly for review of the older topics. Remember that incompletes are not generally available, except in certain unavoidable cases.

You may want to study and/or memorize the Definitions and Textbook Proofs listed below for the final. The Examples and Easy Proofs shouldn't require much further study and are just offered as a random sample of questions from very old finals. This list is intended to jog your memory and help you study efficiently, but does not imply that other topics *won't* be on the exam.

Definitions

$p \rightarrow q$
$A \subseteq B$, $\cap$,etc
1-1 and onto
reflexive, symmetric, etc
countable
tree, graph, digraph, etc
Σ^n
relation
$R \circ S$
isomorphism
P(n,r), C(n,r), f_n

Examples

counting symmetric relations, etc
putting 7 eggs into 4 baskets
strings in Σ^3 with a b
counting paths using matrices
ways to seat 7 in a circle

strings in Σ^{10} with 3 b's
making recursive def's

Textbook Proofs

See the HW page

Easy Pfs.

Z is countable
$3x + 1$ is 1-1
$\leq$ is Ref and Tran, not Sym
If $A \cap B^c = \emptyset$, then $A \subseteq B$ [etc.]

You should know the statements of most of the theorems we've gone over [ex: the binomial thm., the pigeonhole principle, Pascal's identity, $\sum deg(v) = 2|E|$, etc], and most of the notation on the inside cover of the book.