List of examinable proofs

The following is a list of the theorems from the lecture notes which you may be asked to prove on the exam. Approximately 60 percent of the marks on the exam will be for proofs of theorems on this list.

Note that the proofs of many theorems build upon one another. Whenever this is the case, I indicate whether auxiliary results need to be proven or just quoted in order to get full points.

Theorem 3.5 (may quote FTA).
Theorem 3.8.
Theorem 4.1 (may quote Theorem 3.8).
Corollary 5.5 (may quote Theorem 5.3).
Theorem 6.1 (only lower bound for $\pi(x)$ is examinable).
Theorem 7.2 and Corollary 7.3.
Prop. 7.8.
Suppl. Week 46: Theorem 1.7.
Prop. 8.1.
Theorems 9.3 and 9.6 (must prove Props. 9.1, 9.2, Lemma 9.5 if used).
Theorem 10.2 (if you follow the proof in the lecture notes, you may quote Lemma 15.3. If you follow the proof on the handout, you may quote Minkowski's Theorem).
Theorem 11.7 (may quote Prop. 12.2 and Theorem 12.4).
Theorem 12.4.
Corollary 12.6 (may quote Theorem 12.4).
Theorem 15.2 (may quote Prop. 14.1 and Lemmas 14.2, 14.3, 15.1).
Prop. 17.2 (must prove Lemma 17.3 if used).
Theorem 17.6 ($h = 2$ only).
Theorem 18.2 ($h = 2$ only. Chernoff's inequality plus the Borel-Cantelli lemma may be assumed without proof, as may the calculus exercise to estimate μ_n).
Suppl. Week 49: Theorem 1.3.
Theorem 21.3 (you can be asked to prove the finiteness of one of $W(3.2)$, $W(3,3)$ and $W(4,2)$. If you're asked about $W(4,2)$, then you are allowed to assume the finiteness of $W(3,l)$ for all l).
Szemerédi Regularity Lemma: you will NOT be asked to prove this. You should know the statement though.
Roth's theorem: you should know all steps of the proof, starting from the

Regularity Lemma, which you may assume.