MTHT 430 Analysis for Teachers

Problem Set 3

1) Chapter 2: 20

2) Prove that $n^3 + 5n$ is divisible by 6 for all $n \in \mathbb{N}$.

3) Prove that $n^2 < 2^n$ for all $n \geq 5$. [Hint: While proving this you might be forced to prove another inequality about 2^n by a separate induction.]