m3p16cw15.tex

M4PM16/M5P16: ASSESSED COURSEWORK, 19.2.2015

Deadline 12 noon, Th. 5 March 2015

Given the Prime Number Theorem with remainder term, PNT-R, in the form $$\sqrt{--}$$

$$\pi(x) = li(x) + O(x \cdot e^{-c\sqrt{\log x}}),$$

show that the *n*th prime p_n satisfies

$$p_n = li^{-1}(n) + O(n\log^2 n.e^{-c\sqrt{\log n}}).$$

NHB