

2nd Exercise Sheet, Set Theory of the Real Line, WS 2014/2015

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Exercise 3

Let φ be the arithmetical formula occurring in the definition of Σ_n^1 and Π_n^1 sets. If $n > 0$ is even, there is a Δ_0^0 formula φ_0 such that φ can be replaced by

$$\exists^0 m \varphi_0(m, w \upharpoonright m, x_1 \upharpoonright m, \dots, x_n \upharpoonright m).$$

An analogous assertion holds for n odd, with \forall^0 replacing \exists^0 .

Exercise 4

Show that “ A_c is null” and “ A_c is meager” are absolute sentences for model of set theory.