

Additional Problem on (Un)Decidability

1. For each of the following, is it decidable? Justify your answer.
 - (a) The property of reducing to a numeral, i.e. $\{M \in \Lambda \mid \exists n \in \mathbb{N}. M \triangleright^* \underline{n}\}$.
 - (b) The property of being normal, i.e. $\{M \in \Lambda \mid M \text{ is in normal form}\}$.
 - (c) The set $\{M \in \Lambda \mid M \approx \underline{\text{div}} \text{ and } M \text{ normalising}\}$.