Boolos and Jeffrey - HW2

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1 All nodes lead to Rome.

Proposition:

The set of nodes of an infinite binary tree is enumerable.

Conclusion:

(in progress)

2 What a long, strange trip it's been.

Proposition:

The set of infinite paths beginning at the origin down an infinite binary tree is *not* enumerable.

Conclusion:

(in progress)

3 $\mathbb{N}$ *into* $\mathbb{N}$

Proposition:

Where $\mathbb{N}$ is the set of positive integers, prove that the set of all *one-to-one*, *total* functions from $\mathbb{N}$ *into* $\mathbb{N}$ is not enumerable.

Conclusion:

(in progress)

4 $\mathbb{N}$ *onto* $\mathbb{N}$

Proposition:

Where $\mathbb{N}$ is the set of positive integers, prove that the set of all *one-to-one*, *total* functions from $\mathbb{N}$ *onto* $\mathbb{N}$ is not enumerable.

Conclusion:

(in progress)