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Roman Kossak* (rkossak@gc.cuny.edu), 365 Fifth Avenue, NY, NY 10016. *Twenty Questions*.

In the last chapter of (1), Jim Schmerl and I put together twenty open problems concerning models of PA. Since the book was published, two problems were solved by Ali Enayat, and partial solutions to three other problems were given by Victoria Gitman, and Saharon Shelah. The problems can be roughly divided into three groups: general model theoretic/set theoretic questions about existence of models with special second order properties; permutation group theory questions concerning automorphisms and automorphism groups of recursively saturated models; questions concerning complete types and lattices of elementary substructures specific to models of PA. There is also an important question that stands alone: the Scott set problem. I will talk about selected problems from each group, and I will comment on recent progress.

References

- [1] Roman Kossak, James H. Schmerl, *The structure of models of Peano Arithmetic*. Oxford Logic Guides 50, Clarendon Press, Oxford 2006.

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