

## ON TWO PROBLEMS FROM “THE KOUROVKA NOTEBOOK”

S. F. Kamornikov, V. N. Tyutyaynov

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We solve Problems 19.87 and 19.88 formulated by A.N. Skiba in “The Kourovka Notebook.” It is proved that if, for every Sylow subgroup  $P$  of a finite group  $G$  and every maximal subgroup  $V$  of  $P$ , there is a  $\sigma$ -soluble ( $\sigma$ -nilpotent) subgroup  $T$  such that  $VT = G$ , then  $G$  is  $\sigma$ -soluble ( $\sigma$ -nilpotent, respectively).

Keywords: finite group,  $\sigma$ -soluble group,  $\sigma$ -nilpotent group, partition of the set of all prime numbers, Sylow subgroup, maximal subgroup.

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*Sergei Fedorovich Kamornikov*, Dr. Phys.-Math. Sci., Prof., Francisk Skorina Gomel State University, 246019, Gomel, Republic of Belarus. e-mail: sfkamornikov@mail.ru.

*Valentin Nikolayevich Tyutyaynov*, Dr. Phys.-Math. Sci., Prof., Gomel Branch of International University “MITSO”, Gomel, 246029, Republic of Belarus, e-mail: vtutanov@gmail.com.

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