## Seminar 12.

Task 1. It is necessary to distribute five identical licenses at the Auzubel auction. According to the rules, none of the participants can get more than 3 licenses. There are known marginal benefits for participants from the assignment of one additional license:

| $v A, 1=76$ | $v B, 1=81$ | $v C, 1=95$ | $v D, 1=65$ | $v E, 1=87$ | $v F, 1=89$ |
| :--- | :--- | :--- | :--- | :--- | :--- |
| $v A, 2=76$ | $v B, 2=75$ | $v C, 2=55$ | $v D, 2=64$ | $v E, 2=55$ | $v F, 2=69$ |
| $v A, 3=75$ | $v B,=13$ | $v C, 3=54$ | $v D, 3=63$ | $v E, 3=25$ | $v F, 3=27$ |

Determine the optimal end of the auction.

Task 2. Five identical licenses must be distributed at the Auzubel auction. According to the rules, none of the participants can get more than 3 licenses. There are known marginal benefits for participants from the assignment of one additional license:

| $v A, 1=633$ | $v B, 1=675$ | $v C, 1=675$ | $v D, 1=685$ | $v E, 1=590$ | $v F, 1=731$ |
| :--- | :--- | :--- | :--- | :--- | :--- |
| $v A, 2=613$ | $v B, 2=560$ | $v C, 2=674$ | $v D, 2=665$ | $v E, 2=590$ | $v F, 2=729$ |
| $v A, 3=590$ | $v B, 3=130$ | $v C, 3=673$ | $v D, 3=635$ | $v E, 3=590$ | $v F, 3=0$ |

Determine the optimal end of the auction.

Task 3. Using data from task 2 determine the winners and the purchase price of the goods if the auction will be conducted according to the rules:
a) the English auction;
b) the Dutch auction;
c) the auction of the first price;
d) the second price auction.

