## A MINING BONANZA

A mining company made test drillings into a rich mineral reserve. The results were mapped on a grid showing the values in millions of dollars. Beginning at the square START the company can mine a route of thirteen squares, moving from square to square horizontally or vertically but not diagonally. A square can be visited only once.

One possible route is START, 24, 70, 6, 77, 30, 66, 22, 73, 19, 98, 1, 90, 14.
This route has a total value of $\$ 590$ million.

Find the route with the highest value.

| 32 | 80 | 19 | 98 | 1 | 90 | 14 | 85 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 66 | 22 | 73 | 52 | 72 | 57 | 83 | 31 |
| 30 | 84 | 41 | 73 | 16 | 74 | 45 | 92 |
| 77 | 6 | 70 | 24 | sтаिт | 28 | 67 | 11 |
| 32 | 99 | 44 | 81 | 27 | 75 | 42 | 98 |
| 68 | 21 | 72 | 56 | 59 | 42 | 75 | 17 |
| 34 | 87 | 19 | 92 | 5 | 99 | 27 | 88 |

## A MINING BONANZA : answers

best result so far:

| 32 | 80 | 19 | 98 | 1 | 9014 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 66 | 22 | 73 | 52 | 72 | 3 |  |
| 30 | 84 | 41 | 73 | 16 | 7445 |  |
| 77 | 6 | 70 | 24 |  | 2867 |  |
| 32 | 99 | 44 | 81 | 27 | 7 |  |
| 68 | 21 | 72 | 56 | 59 | 4275 | 17 |
| 34 | 87 | 19 | 92 | 5 | 7 |  |

