**1a)**

|  |  |  |  |
| --- | --- | --- | --- |
| **n** | **SQMM** | **SQMMR** | **STMM** |
| **2** | 2800 | 6900 | 13600 |
| **4** | 4600 | 14500 | 70000 |
| **8** | 40300 | 125800 | 357200 |
| **16** | 178200 | 138600 | 2086400 |
| **32** | 1335300 | 1096800 | 11055600 |
| **64** | 3221800 | 3755700 | 56940900 |
| **128** | 2943000 | 19309500 | 233774500 |

For each step Strassen’s algorithm is the slowest algorithm. Normally asymptoticly Strassen’s algorithm should be faster, however because of the computer conditions and the input size is not large enough, we cannot see the difference. Running time of Strassen’s algorithm is O(nlog27), which can be faster than other algorithms when the input size is large enough.

**2b)**

6 6 6

12 12 12

18 18 18