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| **Table 2: Comparisons of Performances by BFS and IDA\* on 30 *Sokowhole* Puzzles** | | | | |
|  | **Solved in 2 Mins** | | **Nodes Generated** | |
| **Method - Heuristics - Bound Increment** | **Total** | **Solved %** | **Total** | **Avg** |
| BFS | 25/30 | 83.33% | 63162 | 2526.48 |
| IDA\* - Manhattan - Fixed (1) | 21/30 | 70.00% | 6263 | 298.24 |
| IDA\* - Manhattan - Fixed (4) | 26/30 | 86.67% | 28666 | 1102.54 |
| IDA\* - Manhattan - Dynamic | 24/30 | 80.00% | 13765 | 573.54 |
| IDA\* - Euclidean - Fixed (1) | 20/30 | 66.67% | 3789 | 189.45 |
| IDA\* - Euclidean - Fixed (4) | 23/30 | 76.67% | 11278 | 490.35 |
| IDA\* - Euclidean - Dynamic | 21/30 | 70.00% | 7602 | 362.00 |
|  | **Nodes in Fringe** | | **Nodes Explored** | |
| **Method - Heuristics - Bound Increment** | **Total** | **Avg** | **Total** | **Avg** |
| BFS | 335 | 13.40 | 18717 | 748.68 |
| IDA\* - Manhattan - Fixed (1) | 1719 | 68.76 | 34715 | 1388.60 |
| IDA\* - Manhattan - Fixed (4) | 5564 | 222.56 | 69785 | 2791.40 |
| IDA\* - Manhattan - Dynamic | 3600 | 144.00 | 55687 | 2227.48 |
| IDA\* - Euclidean - Fixed (1) | 2621 | 104.84 | 43976 | 1759.04 |
| IDA\* - Euclidean - Fixed (4) | 2393 | 95.72 | 40416 | 1616.64 |
| IDA\* - Euclidean - Dynamic | 1471 | 58.84 | 24548 | 981.92 |
|  | **Duration (secs)** | | **Solution Length** | |
| **Method - Heuristics - Bound Increment** | **Total** | **Avg** | **Total** | **Avg** |
| BFS | 163.44 | 6.54 | 859 | 34.36 |
| IDA\* - Manhattan - Fixed (1) | 173.44 | 6.94 | 470 | 18.80 |
| IDA\* - Manhattan - Fixed (4) | 459.18 | 18.37 | 666 | 26.64 |
| IDA\* - Manhattan - Dynamic | 314.18 | 12.57 | 532 | 21.28 |
| IDA\* - Euclidean - Fixed (1) | 206.20 | 8.25 | 436 | 17.44 |
| IDA\* - Euclidean - Fixed (4) | 237.53 | 9.50 | 569 | 22.76 |
| IDA\* - Euclidean - Dynamic | 139.05 | 5.56 | 519 | 20.76 |

**Table 2: Comparisons of Performances by BFS and IDA\* on 30 *Sokowhole* Puzzles**





**Table 1: Comparisons of Performances by BFS and IDA\* on 30 *Microban* Puzzles**



