Problem 1

4.1

1. Hill-climbing search.

2. Similar to Breadth-first search.

3. First-choice Hill-climbing search.

4. Random-walk search.

5. Since the population is of size one the two selected parents will be the same node. Random-walk search.

Problem 2

4.14

Problem 3

5.8

Problem 4

5.9

Problem 5

5.12