1 Greedy best-first search

a)

node	options and its heuristic	option with best heuristic
a	b: 17, d: 12	d: 12
d	g: 10 ,a: 17	g: 10
g	e: 8, i: 4, g:10	i: 4
i	h: 5, l: 0, i: 4	l: 0
l	done	

The path we get from our heuristic therefore is: $a \to d \to g \to i \to l$
The optimal path is either: $a \to d \to g \to i \to l$ or $a \to d \to g \to i \to h \to j \to k \to l$ as can be found out by a test with dijkstra.
since the path that was found out is equivalent to one of the optimal paths we found the optimal solution.

b)

node	options and its heuristic	option with best heuristic
c	b:14, e: 10	e:10
e	g: 9, f: 5, c: 13	f:5
f	k: 0, h: 3, e: 10	k:0
k	done	

The path we get from our heuristic therefore is: $c \to e \to f \to k$
The optimal path is either: $c \to e \to f \to h \to j \to k$ as can be found out by a test with dijkstra.
since the path that was found out is longer than the optimal path (since $14 < 19$) we did not find the optimal solution.

c)

node	options and its heuristic	option with best heuristic
a	b: 13, d: 3	d: 3
d	g: 8, a: 14	g: 8
g	e: 6, i: 4	i: 4
i	h: 2, l: 1	l: 1
l	k: 1, i: 4	k: 1
k	f: 4, j: 0	j:0
j	done	

2 Pathfinding with A*

a)

b)

c)

d)

3 A* in lisp