1. False.

	1	2
W1	M2	M1
W2	M1	M2

	1	2
M1	W1	W2
M2	W2	W1

2. True. The man will propose to her first, and she will reject any other man in favor of him.
4. The algorithm is:

while there is a hospital h with an empty slot:
for each student s in h's preference list:
if s has no hospital assigned, accept
if s has a hospital h', and that student prefers h to h', accept (and remove (h', s) from the matching)
otherwise, reject

By contradiction: Assume this is not a stable matching. Then there exists a (h, s) and (h',s') such that h' prefers s and s prefers h'. Then h' would have proposed to s and s would have rejected h' in favor of h. This cannot happen, so this algorithm must produce a stable matching.

7. For each output o not matched to an input:
pick the highest ranked active junction j.
if j is on a matched input i, remove the previous match, mark the old junction inactive and add (i, o) to the matching
if j is on an unmatched input i, add (i, o) to the matching and mark all later junctions on i inactive.

8.

TRUE	1	2	3
W1	M1	M3	M2
W2	M1	M2	M3
W3	M2	M1	M3

	1	2	3
M1	W3	W2	W1
M2	W2	W1	W3
M3	W2	W3	W1

FALSE	1	2	3
W1	M1	M3	M2
W2	M1	M2	M3
W3	M2	M1	M3

Truthful: {(M1, W3), (M2, W2), (M3, W1)}

(M1, W2), (M2, W3), (M3, W1)
Lying: {(M1, W3), (M2, W2), (M3, W1)}