1. In connection with the schema theorem, what is a building block?

| | TRUE | FALSE |
|---|---|---|
| 2. The function f(j) = j(m-j), where j is the number of ones in the chromosome, is an example of a function of unitation. | ☐ | ☐ |
| 3. There are various methods to avoid premature convergence. However, another good option is simply to rerun the GA a couple of times. | ☐ | ☐ |

1. A building block is a schema with (i) low defining length, (ii) low order, and (iii) above-average fitness.

2. This is TRUE. Any fitness function in which the fitness depends only on the number of ones in the chromosome is a function of unitation.

3. This is also TRUE. Even though it is worthwhile to implement some methods for reducing the probability of premature convergence (e.g. a crossover probability < 1), one still often ends up rerunning the GA a couple of times. If such runs are very time-consuming, it can be a good idea first to make a few short runs in order to find suitable GA parameter values for the problem at hand, and then to make one (or at least rather few) long runs.