

- 1.) A question about various voting procedures. (Reference: Problems 9, 11, 13 on page 365; the corresponding question from Test 2.)
- 2.) Given a geometric object, determine the types of symmetry that the object has. (Reference: Handout on geometric transformations.)
- 3.) Specify the symmetry group of a geometric object. (Reference: Handout on geometric transformations.)
- 4.) (i) Simple calculations using modular arithmetic; (ii) Solving a calendar problem or clock problem. (Reference: See the handout on modular arithmetic as well as the quiz on “div” and “mod”.)
- 5.) Use Vigenère Cipher (the keyword will be specified in the test) to encode a given message. (Reference: study carefully the Vigenère Cipher Example on pages 365 and 366 and the corresponding question on Test 2. You must know how Vigenère Cipher works; the algorithm will **not** be described in the test.)
- 6.) A counting problem. (Reference: See the corresponding question on Test 1.)
- 7.) Florida Driver’s License Problem. You must know the algorithm (it will **not** be described in the test.) (Reference: See Test 2.)
- 8.) (i) Using Euler’s theorem, determine if a given graph has an Euler circuit. Find one Euler circuit starting at a specified vertex. (Reference: See the corresponding question on Test 1.)