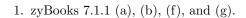
Answer the questions in the spaces provided on the question sheets. If you run out of room for an answer, continue on a separate sheet of paper.



3. zyBooks
$$7.3.1$$
 (a), (b), (e), (f), and (g).

6. zyBooks 7.3.3

Consider the following algorithm for counting the triangles in a symmetric, non-reflexive graph.

Algorithm 1: Triangle counting

7. Analyze the algorithm Triangle counting and express the total number of additions, multiplications, and comparisons required for an $n \times n$ matrix as a function of n.

8. Prove that this algorithm is $\Theta(n^3)$.