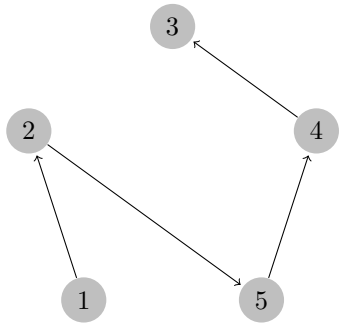
Answer the questions in the spaces provided on the question sheets. If you run out of room for an answer, continue on a separate sheet of paper.

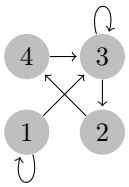
1. Define the directed graph G as follows:



(a) Find G^2.

(b) Find G^+.

2. Define the directed graph G as follows:



(a) Complete the *adjacency matrix*, A, for G.

$$\begin{bmatrix} & \end{bmatrix}$$

(b) Compute A^2.

$$\begin{bmatrix} & \end{bmatrix}$$