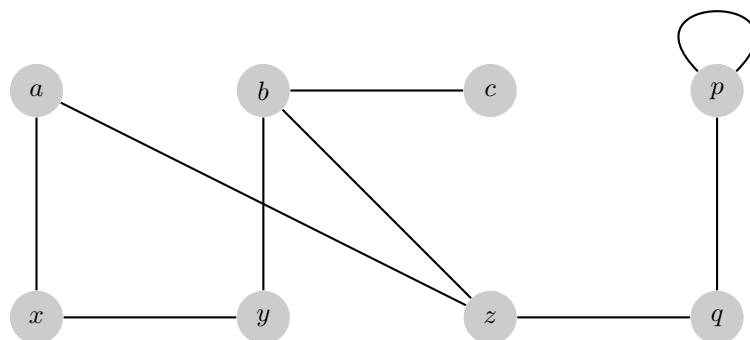# MATH 101 - Handout 1

1 Graph Theory

1.1 Terminology

- Graph
- Vertex
- Edge
- Adjacent Vertices
- Degree (Valence)
- (Dis-)Connected
- Path

- Circuit
- Euler Path
- Euler Circuit
- Euler's Theorem
- Eulerization
- Best Eulerization
- Semi-Eulerization

- Hamilton'n Circuit
- Nearest Nbr Alg'm
- Cheap Link Alg'm
- Brute-force Alg'm
- Tree
- Spanning Tree
- Kruskal's Alg'm

1.2 Exercises

1. What are the vertices of the graph?

2. What are the edges of the graph?

3. What are the degrees of each vertex:

   - $\deg(a) =$?
   - $\deg(b) =$?
   - $\deg(c) =$?
   - $\deg(x) =$?

   - $\deg(y) =$?
   - $\deg(z) =$?
   - $\deg(p) =$?
   - $\deg(q) =$?