

Math 451 - Spring 2018

Homework 3

Due February 20, 2018

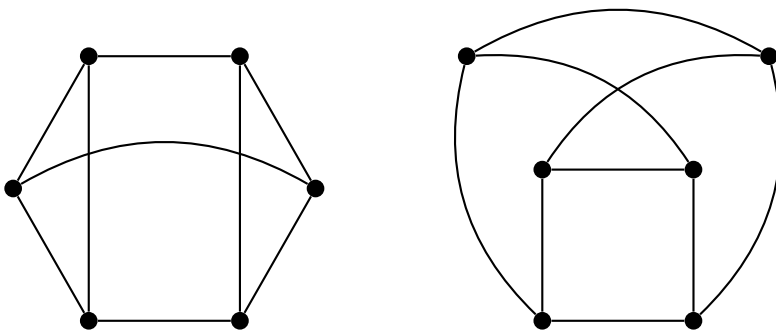
'Obvious' is the most dangerous word in mathematics.

— E.T. Bell

Turn in:

Exercises 2.31, 2.32, 2.34, 2.37

- (1) Determine whether the following graphs are isomorphic (either give an isomorphism, or explain why they aren't):



- (2) We mentioned in class that there is no known formula for the number of non-isomorphic graphs of order n . There is however a nice formula for the number of distinct graphs on n labelled vertices.
- (a) Draw the 8 distinct labelled graphs on 3 vertices.
- (b) Prove that the number of distinct labelled graphs on n labelled vertices is $2^{\frac{n(n-1)}{2}}$.