

# Homework Engine Test

Student Admin

## Problem 1 : Basic Counting

5 pts

How many edges are in  $K_n$ ?

*(Solution hidden for study purposes)*

## Problem 2 : Connectivity

15 pts

Let  $G$  be a connected graph.

- (a) Define vertex connectivity  $\kappa(G)$ .

*(Solution hidden for study purposes)*

- (b) State Whitney's Theorem.

*(Solution hidden for study purposes)*

- (c) Prove that  $\kappa(C_n) = 2$  for  $n \geq 3$ .

*(Solution hidden for study purposes)*

## Problem 3

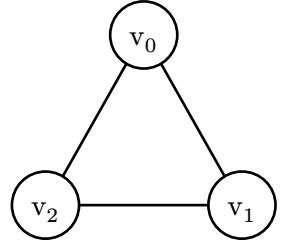
This problem should automatically be “Problem 3”.

- (a) This should be part (a).  
(b) This should be part (b).

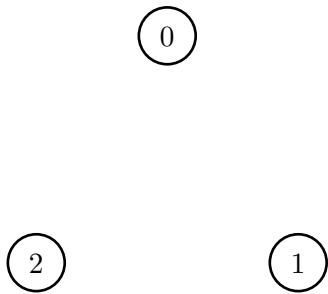
## Problem 4 : Drawings

10 pts

Draw  $C_3$  and its complement.



**Figure 1:** The Graph



**Figure 2:** The Complement