

Name: \_\_\_\_\_

# CIS 351 Sample M2 Problem

15 October 2025

## M2: Cache Mechanics

Consider a 512KB, 8-way set associative cache with 16 byte blocks.

- (a) Show how 32-bit addresses are divided into offset, index, and tag fields. You must show your work.
  
  
  
  
  
  
  
  
  
  
- (b) Compute the total size of this cache (including metadata). Assume pseudo-LRU replacement. Give your answer in bytes. Show your work.
  
  
  
  
  
  
  
  
  
  
- (c) Sketch this cache.

(solution)