CMSC330 Fall 2009 Quiz #2

Name ________________________________

Discussion Time (circle one):    10am    11am    12 pm    1pm    2pm    3pm

Instructions
• You have 20 minutes for this quiz.
• This is a closed book exam. No notes or other aids are allowed.
• For partial credit, show all of your work and clearly indicate your answers.
• Write neatly. Credit cannot be given for illegible answers.

1. (6 pts) OCaml Types and Type Inference
   a. (2 pts) Give the type of the following OCaml expression
   
   fun x -> [ x+2 ]  

   Type =

   b. (2 pts) Write an OCaml expression with the following type
   
   int -> bool  

   Code =

   c. (2 pts) Give the value of the following OCaml expression. If an error exists, describe the error.
   
   let x = (fun z -> z – 1) in x 1  

   Value =

2. (6 pts) OCaml Programming

   Using fold and an anonymous function, write a function numAdults which when applied to a list of ints lst, returns the number of elements of lst that are 18 or over. Example: numAdults [17;18; 21;16; 25] = 3

   let rec fold f a l = match l with
   [] -> a
   l (h::t) -> fold f (f h a) t