

CMSC330 Fall 2009 Quiz #2

Name _____

Discussion Time (circle one): 10am 11am 12pm 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`

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