QUIZ!
Use a full sheet of 8½x11" paper. (Half sheet? Half credit!)

Put **only your last name** in the **far upper left hand corner** of the sheet, where a staple would hit it. It's OK to write **BIG**, just start in the corner!

**Mitchell**

**AVOID A ½-POINT DEDUCTION!**

Keep answers short! Avoid full sentences. Feel free to abbreviate.

3 questions; 3 minutes; 3 points. Plus a ½ point E.C. question.

**Question 3 is worth two points.**

Numbering responses may help you avoid overlooking a question. You may go ahead and number your paper.
1. Give a simple definition for "higher order function".

2. What's the type of map? Here's a reminder of how map works:
   > map (add 2) [1..5]
   [3,4,5,6,7]

3. Write a function atb f x y that calls the function f with the larger of x and y. (2 points!)
   
   > atb negate 7 2
   -7
   > atb length "aa" "zzz"
   3

EC ½ point: In Haskell, what's a "section"? (Ok to just show an example.)
Solutions

1. Give a simple definition for "higher order function".
   A function that has one or more arguments that are functions.

2. What's the type of `map`?
   \((a \rightarrow b) \rightarrow [a] \rightarrow [b]\)

3. Write a function `atb f x y` that calls the function \(f\) with the larger of \(x\) and \(y\). (2 points!)
   Two solutions:
   \[
   \text{atb } f \ x \ y = f \ (\text{if } x > y \ \text{then } x \ \text{else } y)
   \]
   \[
   \text{atb } f \ x \ y
   \ |
   \ |
   \ |
   x > y = f \ x
   
   otherwise = f \ y
   \]

EC ½ point: In Haskell, what's a "section"? (Ok to just show an example.)
   Short answer: \((+3)\) is a section.
   Long answer: A syntactic mechanism that allows creation of a partial application of a binary operator by supplying either operand.