

# Programming Language Concepts Homework 4

Due Friday Oct 18; Joseph Sepich (jps6444)

## 1 Problem One

In the first scheme expression the two expressions can only be equivalent if  $e1 = e2$ , so if you applied the same value to both  $x1$  and  $x2$ , but in the second scheme expression you can guarantee that  $e1 = e2$  if  $e2 = x1$ . You can guarantee this because the `let*` declaration has the scope of  $x1$  start immediately when its declared. This means it can be used in the  $x2$  declaration, however we can not use  $x1$  as meaning  $e1$  in the first expression, because the scope of the  $x1$  in the expression is only in the body of the local function ( $e$ ).