Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Environments and Closures Practice Homework

**DAY 1A**

(let ([a (+ 3 4)]

[b 5])

(let ([c (let ([d 6]) (+ d b))])

(list a b c)))

**DAY 1B**

(let ([a 8])

(let ([proc (lambda (x) (+ a x))]

[b 8])

(lambda (y) (proc b))))

**DAY1C**

(let ([a 3])

(let ((proc (lambda (x) (+ a x))))

(+ (proc 10) (proc 100))))

Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**DAY2A**

(define foo (lambda (x) (+ 1 x)))

(let [(x (foo 8))]

(set! foo (lambda (y) (+ x y))))

(foo 100)

**DAY2B**

(letrec ((betterfac (lambda (n acc)

(if (= n 1)

acc

(betterfac (- n 1) (\* acc n))))))

(betterfac 3 1))