CptS 335 - Scheme Calesthenics

Here are some Scheme calisthenics to get warmed up. Write the result of each function call next to the function. Assume that `nums` is the list `(1 2 3 4)`.

(list 1)
(list 1 2)
(list nums)
(list nums 1)
(list nums nums)
(list)
(list '())
(list '(1 2))
(list '((1) 2))
(list '(((1)) 2))
(list '(nums))
(list (car nums))
(list (cdr nums))
(list (cdr '(1)))
(null? '(1))
(null? nums)
(null? (cdr '(1)))
(list (null? (cdr '(1))))
(cons 4 '(3))
(cons 4 nums)
(append '(4) nums)
(list '(4) nums)
(lambda (x) (+ x 1))
(lambda (x) (- 0 x))
(lambda (y) (list y 1))
(lambda (x y) (list x y))

(cdr (list 1))
(cdr (list 1 2))
(cdr nums)
(cdr (list nums 1))
(cdr (list nums nums))
(cdr (list))
(cdr '())
(cdr '(1 2))
(cdr '((1) 2))
(cdr '(((1)) 2))
(cdr '(nums))
(car (cdr nums))
(cdr (cdr nums))
(cdr (cdr '(1)))
(null? '(1 1))
(null? (car nums))
(null? (car '(())))
(cons 3 '())
(cons '(3) '())
(cons nums nums)
(append nums nums)
(list nums nums)

(car (list 1))
(car (list 1 2))
(car nums)
(car (list nums 2))
(car (list nums nums))
(car (list))
(car '())
(car '(1 2))
(car '((1) 2))
(car '(((1)) 2))
(car '(nums))
(car (car nums))
(car (cdr nums))
(car (cdr '(1)))
(null? '())
(null? (cdr nums))
(null? (cdr '(2 3)))
(cons '() '())
(cons 3 4)
(cons nums 4)
(append nums '(4))
(list nums '(4))