SECOND QUIZ

You have 15 minutes from the start of class to complete this quiz. Read the problems with care; work with deliberate speed. Don't give us more than we ask for. The usual instructions apply. Good luck!

Problem 1 (3 points)

Evaluate each of the following expression(s). (That is, what does DrScheme display in the interactions window when you enter the expression(s) in the definitions window and click Run?)

(a)
```
(define MESSAGE "Go Eaters")
(string-length (string-append MESSAGE "!!!"))
```

(b)
```
(define shipping-charge
  (lambda (weight)
    (cond
      ((<= weight 12) 7.95)
      ((<= weight 24) 9.95)
      ((<= weight 36) 10.95)
      (else (+ 10.95 (* 0.50 (+ 1 (/ (- weight 36) 12))))))))
(shipping-charge 30)
```

(c)
```
(*
  (+ 5 4 3)
  (/ (* 25 2) (/ 20 4)))
```

Problem 2 (6 points)

The Anteater Coffee House uses this structure to store information about each drink a customer orders:

```
(define-struct order (drink size price customer))
```

where `drink` (a string) is the name of the drink; `size` (a string) is `"small"`, `"medium"`, or `"large"`; `price` (a number) is the price; and `customer` (a string) is the name of the customer who made the order.

(a) (2 points) Write an expression that constructs and returns a structure representing a medium espresso ordered by Sam that costs $2.25. (Just write the expression that constructs the structure; don't use `define`.)

(b) (1 point) What is the name of the selector function that takes an `order` structure and returns how big the ordered drink is?

(continued on reverse)

(c) (3 points) Fill in the body of the function defined below.

```
;; drink-ordered-by?: order string -> boolean
;; Return true if the drink was ordered by the named person (and false otherwise)
;; Example:  (drink-ordered-by? (make-order "latte" "small" 3.50 "Joe") "Jane")
;;           should return false.
(define drink-ordered-by?
  (lambda ( this-order name-to-check )
```

Problem 3 (11 points)

The national cellphone service in Outer Yucca charges a lot for text messages: $3.50 plus $0.10 for each character in the message. Write the function `text-cost` that takes a string (the message) as its input and returns a number, the cost of that message according to the pricing described above.

Write a contract, a brief purpose statement, two examples/tests in the form of `check-expect` expressions, and the Scheme function definition. Use the following constants in your code:

```
(define FIXED-PRICE    3.50)
(define PRICE-PER-CHAR 0.10)
```