In your DrScheme environment type in the following program:

```scheme
;; discriminant: number number number -> number
(define (discriminant a b c)
  (sqrt (- (sqr b) (* 4 (* a c)))))

;; solve: number number number -> list of 2 numbers
(define (solve a b c)
  (list (- (- (/ b (* 2 a))) (/ (discriminant a b c) (* 2 a)))
         (+ (- (/ b (* 2 a))) (/ (discriminant a b c) (* 2 a)))))

;; equation: number number -> list of three numbers
(define (equation x y)
  (list 1 (- (+ x y)) (* x y)))
```

1. **(8 pts)** Now in your interactions window, type in the following and record the results:

   (a) `(equation -2 3)`
   `((cons 1 (cons -1 (cons -6 empty))))`

   (b) `(solve 1 -1 -1)`
   `((cons 1.618033988749895 empty))`

   (c) `(equation 3 5)`
   `((cons 1 (cons -8 (cons 15 empty))))`

   (d) `(solve 2 -16 30)`
   `((cons 3 (cons 5 empty)))`

2. **(4 pts)** Explain what `solve`, `equation` and `discriminant` do?

   (a) `discriminant` calculates the discriminant of the equation $ax^2 + bx + c = 0$

   (b) `solve` solves a given quadratic equation

   (c) `equation` finds a quadratic equation whose roots are given as input (The last two examples should have clued you in to that).