Clicker Qs for October 3
What is the continuation of an expression?

A. The value of the expression.
B. What you do with the value of the expression.
C. Whatever is left out of the expression.
D. A loop that contains the expression.
Answer B. The continuation of an expression is whatever needs to be done with the value of the expression after we compute that value.
What is the continuation of (+ 3 x) in (* 5 (- (+ 3 x) 4))? 

A. We can't say until we know the value of x  
B. (lambda (x) (+ 3 x))  
C. (lambda (t) (* 5 (- t 4)))  
D. (lambda (t) t)
Answer B: (lambda (t) (* 5 (- t 4)))
Here t represents the value of the expression (+ 3 x)
What is the continuation of (+ 3 x) in (* 5 (- 4 x))?  
A. The question is stupid because (+ 3 x) isn't an expression in (* 5 (- 4 x))  
B. The question is stupid because (+ 3 x) isn't an expression in (* 5 (- 4 x))  
C. The question is stupid because (+ 3 x) isn't an expression in (* 5 (- 4 x))  
D. The question is stupid because (+ 3 x) isn't an expression in (* 5 (- 4 x))
What does (fact-k n k) do?

A. It finds n factorial
B. It finds k factorial
C. It finds (k n) and then it finds the factorial of this number
D. It finds n factorial and calls function k with this value
Answer D: It finds $n$ factorial, and then calls $k$ with this value. In mathematical notation this is $k( n! )$.
(define fact-k
  (lambda (n k)
    (cond
      [ (= 0 n) (k 1)]
      [else (fact-k (- n 1)
                   (lambda (x) (k (* x n))))])))

In line 2: (lambda (n k) ...) what is the meaning of k?
A. k is what we will do with the value of n-factorial
B. k is the value of n-factorial
C. k is how we go from n-1 factorial to n factorial
D. k is (lambda (x) x)
Answer A: k is what we will do with the value of n-factorial
(define fact-k
  (lambda (n k)
    (cond
      [(= 0 n) (k 1)]
      [else (fact-k (- n 1) (lambda (x) (k (* x n))))])))

In the last line: (lambda (x) ...) what is the meaning of x?
A. x is the continuation of fact-k
B. x is the value of k
C. x is the value of n factorial
D. x is the value of (- n 1) factorial
Answer D: x is the value of (-n 1) factorial