Clicker Questions for November 12
This illustrates static rather than dynamic scoping. Standard Scheme uses static scoping. What will this evaluate to in Scheme?

(let ([a 1])
  (let ([f (lambda (x) (+ x a))])
    (let ([a 356])
      (let ([a 356])
        (f 5)))))

A. 6  
B. 361  
C. 357  
D. An error
Answer A: 6

With dynamic scoping it would evaluate to 361.
This illustrates call-by-reference. Standard Scheme uses call-by-value. What will this evaluate to in Scheme?

\[
\text{(let ([f (lambda (x)
 \hspace{1em} (begin
 \hspace{1em} \hspace{1em} (set! x 23)
 \hspace{1em} \hspace{1em} 5))])}
\]

\[
\text{(let ([y 0])}
\hspace{1em} (begin
\hspace{1em} (f y)
\hspace{1em} y))\]

A. 5
B. 23
C. 0
D. An error
Answer C: 0

With call-by-reference it would evaluate to 23.
This illustrates call-by-name, which Scheme doesn't use. What will this evaluate to in Scheme?

(let ([x 0])
  (let ([f (lambda (y)
            (begin
              (set! x 23)
              y))])
   (f (+ x 5))))

A. 5
B. 23
C. 28
D. An error
Answer A: 5

With call by name it would evaluate to 28.