

Question 4

Question 4

1 point possible (graded)

Given the function:

```
(define (foo a b)
  (+ (* 3 a)
     b
     (* b a)))
```

What is the first step of the evaluation of `(foo (+ 1 1) 4)`, and what is the result of that step?

- ☐ Replace a and b with `(+ 1 1)` and 4 everywhere.

```
(define (foo (+ 1 1) 4)
  (+ (* 3 (+ 1 1))
     4
     (* 4 (+ 1 1)))

(foo 2 4)
```

- ☐ Replace `(foo 2 4)` with the body of `foo` in which we replace all occurrences of a with `(+ 1 1)`, and b with 4.

```
(+ (* 3 2)
   4
   (* 4 2))
```

- ☒ Evaluate `(+ 1 1)` and replace it in the function call of `foo`.

```
(foo 2 4)
```



Explanation

Because `(+ 1 1)` is an expression, not a value, it is first evaluated to 2 before moving on with the evaluation of `foo`.

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Answers are displayed within the problem