

What's Wrong with these Recipes? 2

Directions: Write a function that returns the area of a circle given its diameter.

Contract and Purpose Statement

Every contract has three parts...

<code>;circle-area</code>	:	Number	->	Number
<i>function name</i>		<i>domain</i>		<i>range</i>

; Given the diameter, multiply pi by radius squared to get the area

what does the function do?

Examples

Write some examples, then circle and label what changes...

(EXAMPLE (circle-area 10) (* (sqr (/ 10 2)) pi))

function name *input(s)* *what the function produces*

(EXAMPLE (circle-area 50) (* (sqr (/ 50 2)) pi))

function name *input(s)* *what the function produces*

Definition

Write the definition, giving variable names to all your input values...

```
(define (area diameter)
  (* (sqr diameter) pi))
```

Directions: You have 100 square feet of carpet to put down in your room. Write a function that takes in the length and width of your room and returns true if you have enough carpet and false if you don't.

Contract and Purpose Statement

Every contract has three parts...

<code>; enough-carpet?:</code>	Number	Number	->	Number
<i>function name</i>	<i>domain</i>			<i>range</i>

; Given length and width of a room, is the area ≤ 100 sq feet?

what does the function do?

Examples

Write some examples, then circle and label what changes...

(EXAMPLE (enough-carpet? (10 15)) (< (* 10 15) 100))

function name *input(s)* *what the function produces*

(EXAMPLE (enough-carpet? (9 10)) (< (* 9 10) 100))

function name *input(s)* *what the function produces*

Definition

Write the definition, giving variable names to all your input values...

```
(define (enough-carpet? length width)
  (< (* length width) 100)
  what the function does with those variable(s))
```