

## 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>

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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...

<b>; enough-carpet?:</b>	<b>Number</b>	<b>Number</b>	<b>-&gt;</b>	<b>Number</b>
<i>function name</i>	<i>domain</i>			<i>range</i>

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

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*what does the function do?*

Examples 1

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))
```