

## What's Wrong with these Recipes? 1

**Directions:** All students are given five (5) pencils at the beginning of the school year. Write a function called calc-pencils that takes in the number of students in the school and calculates the number of pencils needed for that school.

## Contract and Purpose Statement □

Every contract has three parts...

<code>;calc-pencils</code>	:	Number	->	Number
<i>function name</i>		<i>domain</i>		<i>range</i>

; Takes a number of students and gives the number of pencils

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*what does the function do?*

## Examples

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

(EXAMPLE ( calc-pencils      100 ) ( \* 100 5 ) )

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

(EXAMPLE ( calc-pencils      40 ) ( \* 40 6 ) )

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

## Definition

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

```
(define (calculate-pencils p)  
  (* p 5)  
  what the function does with those variable(s))
```

**Directions:** It is customary to tip 20% on a bill at a restaurant. Write a function that takes the total cost of the food and returns the new total including tip.

## Contract and Purpose Statement

Every contract has three parts...

<b>; check-total</b>	<b>Number</b>	<b>-&gt;</b>	<b>Number</b>
<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  $\frac{\text{total}}{\text{function name}} \frac{20}{\text{input(s)}} + \frac{(0.2 * 20)}{\text{what the function produces}} \frac{20}{}$ )

$$\text{(EXAMPLE (total } \underline{\hspace{2cm}} \underline{\hspace{2cm}} \text{ 56.67 ) + (0.2 * 56.67) } \underline{\hspace{2cm}} \text{ 56.67 )}$$

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

## Definition

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

```
(define (check-total      food-total )
      function name      variable(s)

      (* (+ 0.2 food-total) food-total)
      what the function does with those variable(s))
```