

## Word Problem: red-square

**Directions:** Use the Design Recipe to write a function 'red-square', which takes in a number (the length of each side of the square) and outputs a solid red rectangle whose length and width are the same size.

### Contract and Purpose Statement

Every contract has three parts...

|          |                      |          |               |          |              |
|----------|----------------------|----------|---------------|----------|--------------|
| <b>;</b> | <b>red-square</b>    | <b>:</b> | <b>number</b> | <b>→</b> | <b>image</b> |
|          | _____                |          | _____         |          | _____        |
|          | <i>function name</i> |          | <i>domain</i> |          | <i>range</i> |

  

|          |  |
|----------|--|
| <b>;</b> | <b>Produce rectangle with given number as width and height</b> |
|          | _____  |
|          | <i>what does the function do?</i>                              |

### Examples

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

|                   |                      |                 |  |
|-------------------|----------------------|-----------------|--|
| <b>(EXAMPLE (</b> | <b>red-square</b>    | <b>4</b>        | <b>) (rectangle 4 4 "solid" "red") )</b> |
|                   | _____                | _____           | _____                                    |
|                   | <i>function name</i> | <i>input(s)</i> | <i>what the function produces</i>        |

  

|                   |                      |                 |   |
|-------------------|----------------------|-----------------|---|
| <b>(EXAMPLE (</b> | <b>red-square</b>    | <b>12</b>       | <b>) (rectangle 12 12 "solid" "red"))</b> |
|                   | _____                | _____           | _____                                     |
|                   | <i>function name</i> | <i>input(s)</i> | <i>what the function produces</i>         |

### Definition

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

|                 |                      |                  |          |
|-----------------|----------------------|------------------|----------|
| <b>(define(</b> | <b>red-square</b>    | <b>size</b>      | <b>)</b> |
|                 | _____                | _____            |          |
|                 | <i>function name</i> | <i>variables</i> |          |

  

|  |          |
|--|----------|
| <b>(rectangle size size "solid" "red")</b>         | <b>)</b> |
| _____  |          |
| <i>what the function does with those variables</i> |          |