Word Problem: distance

Directions: *Write a function "distance", which takes FOUR inputs:*

- *px: The x-coordinate of the player*
- *py: The y-coordinate of the player*
- *cx: the x-coordinate of another game character*
- *cy: the y-coordinate of another game character*

It should return the distance between the two, using the Distance formula. (HINT: look at what you did on the previous page!)

Contract and Purpose Statement

Every contract has three parts...

`distance` :: `Number, Number, Number, Number` -> `Number`

function name | *domain* | *range*

```
# Produce distance between two points with given coordinates
```

what does the function do?

Examples

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

examples:

`distance` `( 0, 0, 3, 4 )` is

function name | *input(s)*

```
num-sqrt(num-sqr(line-length(3, 0)) + num-sqr(line-length(4, 0)))
```

what the function produces

`distance` `(10, 20, 13, 24 )` is

function name | *input(s)*

```
num-sqrt(num-sqr(line-length(13, 10)) + num-sqr(line-length(24, 20)))
```

what the function produces

end

Definition

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

fun `distance` `(px, py, cx, cy )`:

function name | *variables*

```
  num-sqrt(num-sqr(line-length(px, cx)) + num-sqr(line-length(py, cy)))
```

what the function does with those variables

end