



Building number sense one day at a time.

Name \_\_\_\_\_

Challenge	My Estimate	My Reasoning	The Answer

too LOW

too HIGH

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too LOW

too HIGH

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too LOW

too HIGH

# Reverse Engineer a Video Game

[illegible]



**ESTIMATION 180**

Building number sense one day at a time

**NAME:**

Period:

Day #	Description	↓ Too Low	Too High ↑	My Estimate	My Reasoning	Answer	Error	Error  as %
Ex. A	Tyler's age (months)	24	36	30	He looks a little older than my cousin (who is 2)	26	$\oplus$ - 4	$4/26 \approx 15\%$
Ex. B	<i>Bohemian Rhapsody</i>	4:00	5:00	4:30	10% of song = 30 sec 300 sec total = 5 min	5:56	$\ominus$ + 86	$86/356 \approx 24\%$
							+ -	
							+ -	
							+ -	
							+ -	
							+ -	
							+ -	
							+ -	
							+ -	
							+ -	
							+ -	
							+ -	
Average:								

# Brainstorm - Create Your Own Video Game

Created by (write your names): \_\_\_\_\_

## Background

Our game takes place: \_\_\_\_\_  
(In space? The desert? A mall?)

## The Player

The player is a \_\_\_\_\_.

The player moves only up and down.

## The Target

*Your player GAINS points when they hit the target.*

The Target is a \_\_\_\_\_.

The Target moves only to the left and right.

## The Danger

*Your player LOSES points when they hit the danger.*

The Danger is a \_\_\_\_\_.

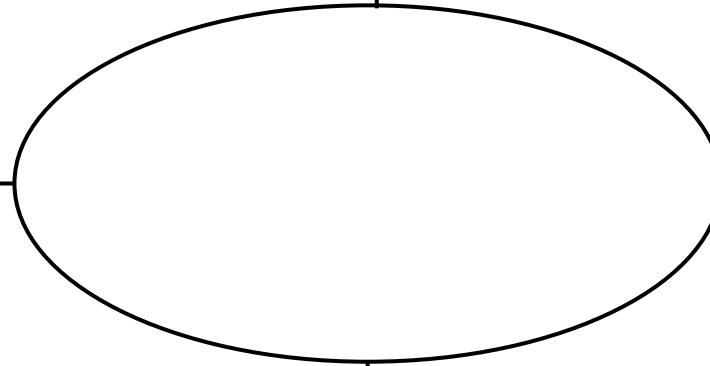
The Danger moves only to the left and right.

## ArtWork Sketches



***CIRCLE OF EVALUATION***

***RACKET CODE***



***PEMDAS***

***COMPARE AND CONTRAST***





# Function Composition - Explore

You'll be investigating these new functions with your partner:

; scale: Number Image -> Image

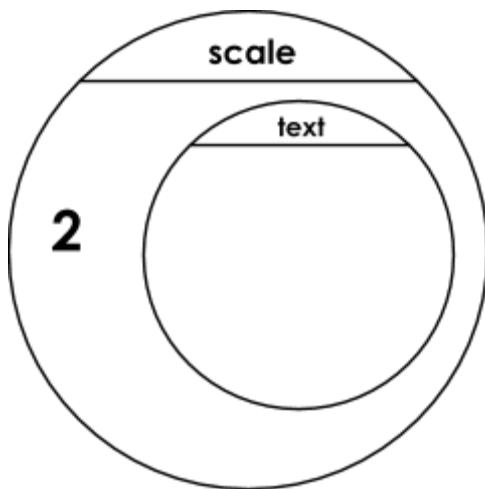
; rotate: Number Image -> Image

; flip-horizontal: Image -> Image

; flip-vertical: Image -> Image

First, draw a circle and write the code to create a text image of your name.

Fill in the missing information with your circle from above, then write the code.



Test out your code in WeScheme! What does scale do? \_\_\_\_\_

Now, try using circles to rotate the image of your name. Test out your code in WeScheme when you're ready.

# Function Composition - Practice

Draw a circle and write the code for a **solid, green star, size 50**.

Using the circle and code from above, draw the circle and write the code for each of the exercises below.

A solid, green star that is 3 times the size of the original (using scale)	A solid, green star is half the size of the original (using scale)
A solid, green star of size 50 that has been rotated 45 degrees	A solid, green star that is 3 times the size of the original <b>and</b> has been rotated 45 degrees

# Defining Values - Practice

Write the code to create a **solid, green star, size 50** and define it as PRIZE\_STAR

Using the PRIZE\_STAR definition from above, draw the circle and write the code for each of the exercises below.

A solid, green star that is 3 times the size of the original (using scale)	A solid, green star is half the size of the original (using scale)
A solid, green star of size 50 that has been rotated 45 degrees	A solid, green star that is 3 times the size of the original <b>and</b> has been rotated 45 degrees

How does defining values help you as a programmer?