

Name: _____

Form II Computer: Functions 1

1. Circle the best definition of a function:
 - a. A variable that stores numbers
 - b. A list of items
 - c. A set of instructions that takes input and gives output**
 - d. A loop that runs forever

2. Look at this function description:

Function name: double

Input: number

Rule: multiply the number by 2

- a. What is the parameter? number
 - b. What do we get if we call the function with input 4? 8
3. Consider a function takes an input of one number and returns that number plus 10. Fill in the table of outputs corresponding to each input.

Input	Output
5	15
12	22
0	10

4. Here is a more complicated function description. Fill in the table.

Function name: multi

Input: number

Rule: step 1: subtract 3 from number

step 2: multiply result by 4

step 3: add 2 to the result

step 4: return the final result

Input	Step 1 result	Step 2 result	Step 3 result	Return value
7	4	16	18	18
5	2	8	10	10
3	0	0	2	2

5. Explain how each object acts like a function. What are its inputs and outputs?

a. A vending machine

The inputs are coins and the outputs are snacks.

b. A calculator

The inputs are numbers and operations, and the outputs are numbers.

c. A smoothie blender

The inputs are ice, fruit, and other ingredients. The output is a smoothie.

6. For the following Python function, write the function name, the inputs, and the rule for the output.

```
def bob(a, b, c):  
    r1 = b + c  
    r2 = a * r1  
    return r2
```

a. function name:

bob

b. inputs:

a, b, c

c. rule for the output:

add together b and c, then multiply the result by a.

7. Fill out the table for the bob function.

```
def bob(a, b, c):  
    r1 = b + c  
    r2 = a * r1  
    return r2
```

a	b	c	r1	r2	return value
5	2	3	5	25	25
3	6	4	10	30	30
7	1	5	6	42	42
15	2	2	4	60	60
8	4	7	11	88	88

8. Fill out the table for the joe function.

```
def joe(d, e):  
    r1 = d * 2  
    r2 = e / 2  
    r3 = r1 + r2  
    return r3
```

d	e	r1	r2	r3	return value
5	2	10	1	11	11
3	6	6	3	9	9
7	1	14	0.5	14.5	14.5
15	2	30	1	31	31
8	4	16	2	18	18