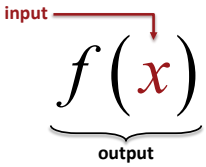
GUIDED NOTES (MODEL NOTES)

Vocabulary

- **input:** the independent variable, what "goes in" the function
- **output:** the dependent variable, what "comes out" of the function
- **function:** a relation where each input has only one output
- **domain:** the set of all possible input values
- **range:** the set of all possible output values

Notation



The letter inside of the parentheses is the independent variable.
The letter outside of the parentheses is the name of the function.
The entire $f(x)$ is the dependent variable.

Examples

Represent each of the following as a function using function notation.

Toaster:

- Input: Bread = *b*
- Function: $T(\ )$
- Output: $T(b)$
- Domain: anything you could put in a toaster (bread slices, waffles, plastic forks)
- Range: what you would get out of a toaster (toast, toasted waffles, melted forks)

Juicer:

Let ***J*** be the variable representing the juicer. Let ***f*** represent the fruit and ***d*** represent the juice you can drink.

1) What would $J(f)$ represent? $J(f)$ is the output of juice, which we also called d.

2) What would be the input? f, the fruit

3) What would be the output? $J(f)$ or d, the juice

4) Describe the domain of $J(f)$. Anything you could press with the juicer

5) Describe the range of $J(f)$. The liquid you would get out of the juicer

Paper Shredder:

How could you use function notation to represent how the paper shredder functions?

We put paper into the shredder, so the input can be p. The shredder function can be $S(\ \ )$. So the shredder function could be represented by $S(p)$.