DOMAIN:

- **Precise definition:** For a function f, which is a rule that assigns to each element x in a set D exactly one element, called $f(x)$ in a set E, then the **domain** of f is the set D.
- **My understanding:** The domain is the set of all x-values that it makes sense to plug into f.
- **Example that exhibits the definition:** Consider $f(x) = \sqrt{x-2}$. The only values that can be plugged in for x are those where $x-2 \geq 0$. In other words, $D = [2, +\infty)$.

RANGE:

- **Precise definition:** The **range** of f is the set of all possible values of $f(x)$ as x varies throughout the domain.
- **My understanding:** The range is the set of all y-values that are output from f when considering all the inputs to f in its domain.
- **Example that exhibits the definition:** Consider $f(x) = \sin(x)$ on the domain $(-\infty, +\infty)$. This function can (and DOES) output every value from -1 to 1 and nothing else. So its range is the interval $[-1, 1]$.