

Step 3. $f(2) = 5(4) + 6 - 1$

Step 4. $f(2) = 20 + 6 - 1$

Step 5. $f(2) = 25$

EXAMPLE 3. Find the domain of the function $y = 5x - 1$.

Step 1. To find the domain or inputs, take note that these are values that will not make y undefined.

Step 2. The values of x in here are all real numbers because whatever the value of x is, y will always be defined.

Answer:

x is the set of all real numbers

EXAMPLE 4. Find the domain of the function $y = \sqrt{5 - x^2}$.

Step 1. Find the possible situation that will make y undefined. The output y will be undefined if the value of y that we will get is the square root of every negative integer. That is, $5 - x^2 \geq 0$ in order for y to be defined.

Step 2. Solve for x .

$$5 - x^2 \geq 0$$

$$x^2 \leq 5$$

Answer: $-\sqrt{5} \leq x \leq \sqrt{5}$

EXAMPLE 5. Find the domain of the function $y = \sqrt{x^2 - 25}$.

Step 1. Find the possible situation that will make y undefined relating to square root. The output y will be undefined if the value of y that we will get is the square root of every negative integer. That is, $x^2 - 25 \geq 0$ in order for y to be defined.

Step 2. Solve for x .

$$x^2 - 25 \geq 0$$

$$x^2 \geq 25$$

Answer: $x \leq 5$ and $x \geq 5$