

Exercise 9

For the following exercises, find the domain of each function using interval notation.

$$f(x) = 3 - \sqrt{6 - 2x}$$

Solution

You can't take the square root of a negative number, so it's necessary that

$$6 - 2x \geq 0.$$

Subtract 6 from both sides.

$$-2x \geq -6$$

Divide both sides by -2 .

$$x \leq 3$$

Therefore, the domain is $(-\infty, 3]$. This is reflected in the graph of $f(x)$ versus x .

