Exercise 22

For the following exercises, determine the interval(s) on which the function is increasing and decreasing.

$$a(x) = \sqrt{-x+4}$$

Solution

To get $a(x)$, start with the parent function.

$$\sqrt{x}$$

Replacing x with $x+4$ shifts the graph to the left by 4 units.

$$\sqrt{x+4}$$

Replacing x with $-x$ reflects the graph about the y-axis.

$$\sqrt{-x+4}$$

The function decreases on $(-\infty, 4]$ and never increases.