

A1. Let $f(x)$ be a function which has domain $[-10, 8]$ and range $[-6, 9]$. Determine the domain and range of each of the following.

(a) $f(x - 3)$

(b) $f(x + 3) - 2$

(c) $-f(\frac{1}{2}x)$

(d) $5f(x) + 8$

A2. Let $g(z)$ be a function which has domain $[-2, 9]$ and range $[1, 8]$. Determine the domain and range of each of the following.

(a) $g(-z) - 1$

(b) $3 - g(2z)$

A3. The graph of a function $h(x)$ is increasing on the intervals $(-\infty, -3)$ and $(8, 100)$, and is decreasing on the interval $(-3, 8)$.

(a) On what interval(s) is the graph of $-h(x - 1)$ increasing?
On what interval(s) is it decreasing?

(b) On what interval(s) is the graph of $h(-x) + 5$ increasing?
On what interval(s) is it decreasing?