

Math Worksheet: Range of Functions (1)

1. Find the range of the following functions.

A. $j(x) = 5$

constant function; range: $\{5\}$

B. $f(x) = 2x$

linear function; range: $(-\infty, +\infty)$

C. $h(x) = x^2 + 2$

$$x^2 \geq 0$$

$$x^2 + 2 \geq 2$$

$$h(x) \geq 2$$

range of h : $[2, +\infty)$

D. $g(x) = \sqrt{x+2}$

Since $\sqrt{x+2}$ is \sqrt{x} shifted to the left, their ranges are equal. The range of \sqrt{x} is: $[0, +\infty)$ hence the range of $\sqrt{x+2}$ is also $[0, +\infty)$.