

Math Worksheet: Domain of Functions (1)

1. Find the domain of the following functions.

A.  $f(x) = \sqrt{2-x}$

$2-x \geq 0 \Rightarrow x \leq 2$       Domain:  $(-\infty, 2]$

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

$2+x^2$  is positive for all  $x$

hence Domain:  $(-\infty, +\infty)$

C.  $h(x) = \frac{1}{\sqrt[3]{x+2}}$

$x+2 \neq 0$

$x \neq -2$

Domain:  $(-\infty, -2) \cup (-2, +\infty)$

D.  $j(x) = \frac{2x+3}{x^2+4x-5}$

$x^2+4x-5 \neq 0 \Rightarrow (x-1)(x+5) \neq 0$

$\Rightarrow x \neq 1$  and  $x \neq -5$

Domain:  $(-\infty, -5) \cup (-5, 1) \cup (1, +\infty)$