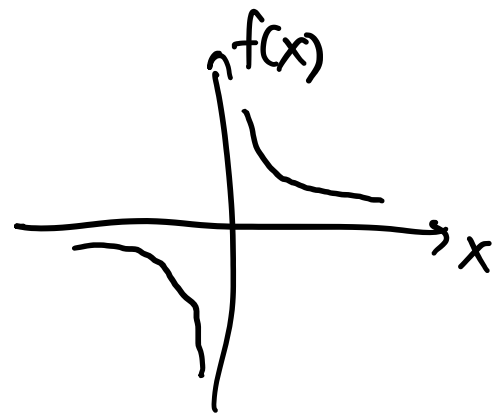# Domain and range (sec. 2.2)

− Jamboard up to slide 6

If $Q = f(t)$ then

Domain: the set of t values (input values)
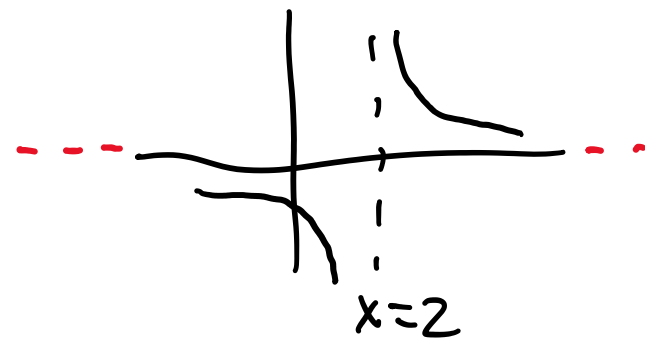Range: the set of output values.

Determine what the domain and range of a function is given a formula (algebraically).

e.g. $f(x) = \dfrac{1}{x}$

domain: $x \neq 0$ in interval notation $(-\infty, 0) \cup (0, \infty)$

$-\infty < x < 0 ,\ 0 < x < \infty$

$g(x) = \dfrac{1}{x-2}$

$x = 2$

domain: $x \neq 2$
range: $y \neq 0$.

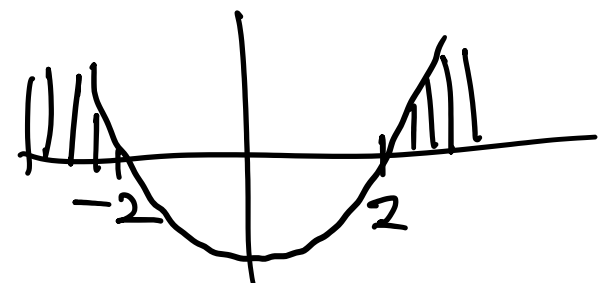$h(x) = \dfrac{1}{\sqrt{x^2 - 4}}$ the number under the square root should be positive.

$x^2 - 4 > 0$
$(x-2)(x+2) > 0$

$x^2 > 4$ $x < -2$ or $x > 2$
$x > 2$
or $x < -2$