

$$A = \{x \in \mathbb{R} \mid 0 \leq x \leq 5\}$$

$$B = \{x \in \mathbb{R} \mid 1 \leq x \leq 6\}$$

Let $f: A \rightarrow B$ &

$$f(x) = x+1.$$

Test whether f is ONTO.

Soln: Let $y \in B$. when

$$y = f(x) = x+1$$

$$x = y-1.$$

$$1 \leq y \leq 6$$

$$0 \leq x \leq 5.$$

Hence f is surjective.

Let $A = \{x \in \mathbb{R} \mid 0 \leq x \leq 5\}$

$$B = \{x \in \mathbb{R} \mid 1 \leq x \leq 7\}.$$

~~f(x)~~ $f: A \rightarrow B$ be given by

$$f(x) = x+1.$$

Test f : Let

Soln: Let $y \in B$ then

$$y = f(x) = x+1$$

$$x = y-1.$$

When $y > 6$ then there is no $x \in B$.
 $x \geq 5$ Not surjective.

Soln: Let $y \in B$ & $y = f(x)$.

$$y = \frac{2x}{x-3}$$

$$y(x-3) = 2x$$

$$yx - 3y = 2x$$

$$yx - 2x = 3y$$

$$x(y-2) = 3y$$

$$x = \frac{3y}{y-2}$$

$$A = \{x \in \mathbb{R} \mid x \neq 2\}$$

Hence $x \in A$ so we have that f is a surjection.