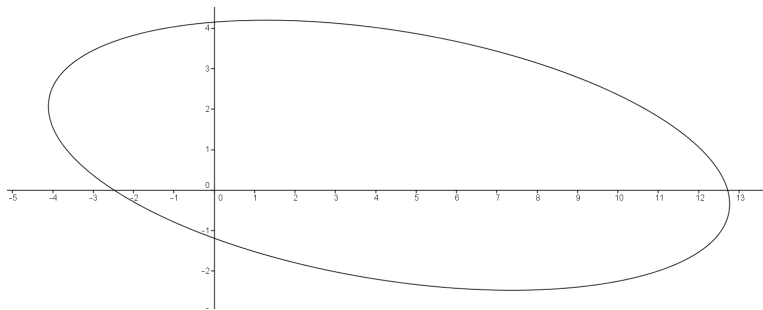


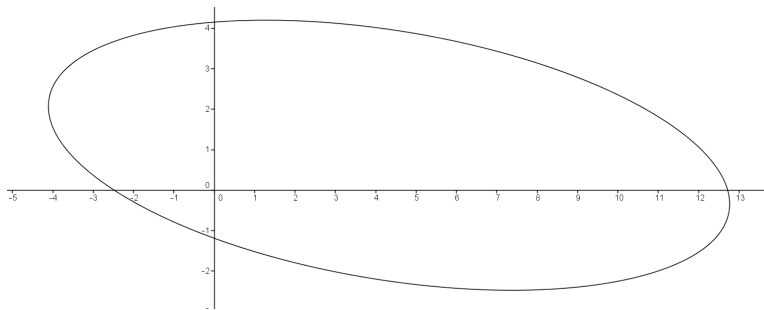
## Exercise 1: real-valued functions

Say which of the following curves represent a real-valued **function** in one real variable.

# Curve 1

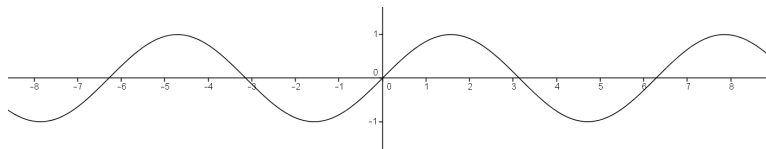


# Curve 1

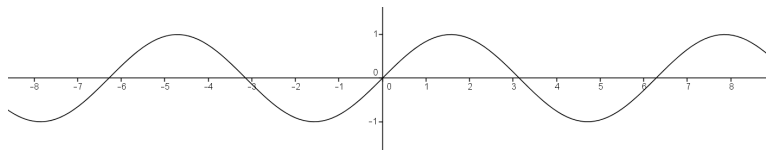


No!

## Curve 2

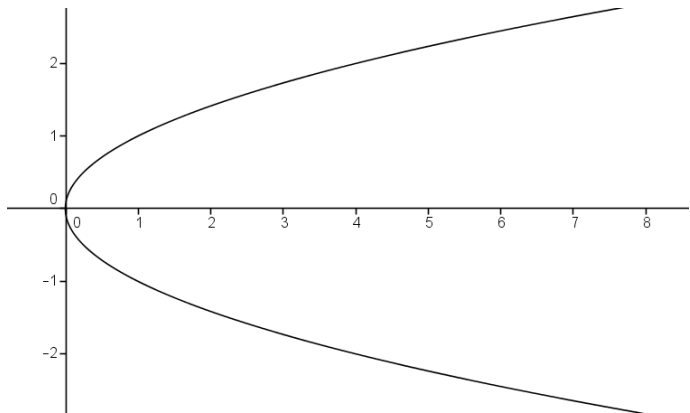


## Curve 2

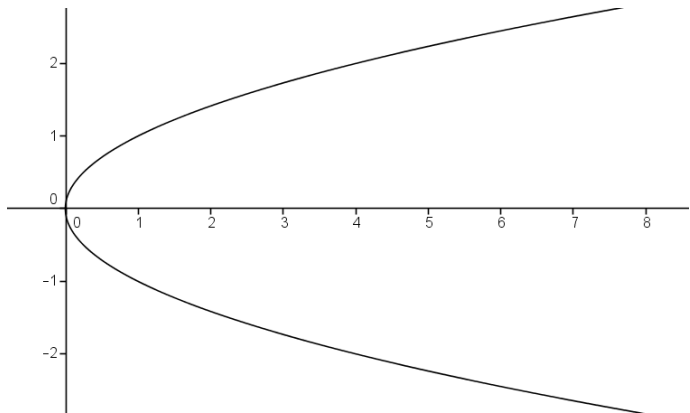


Yes!

## Curve 3

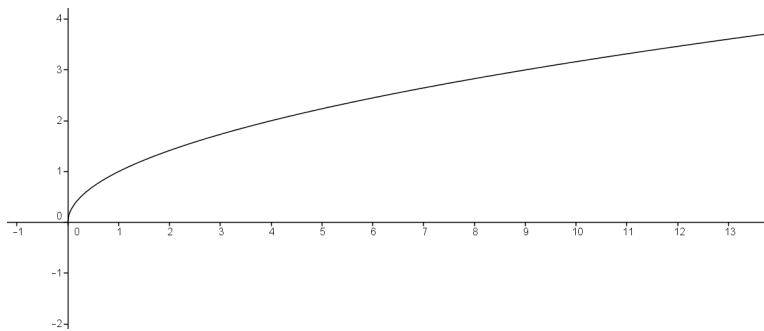


## Curve 3



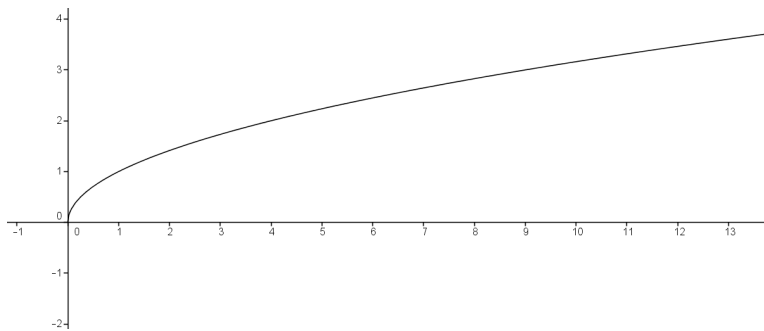
No!

## Curve 4



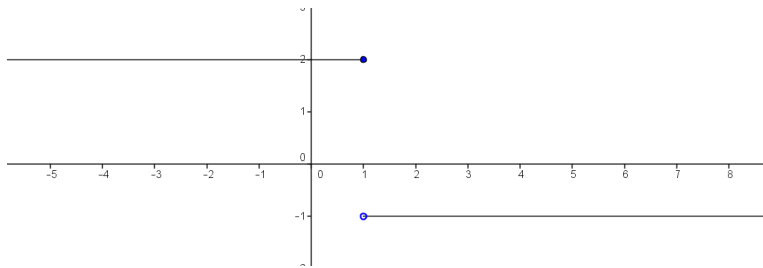


## Curve 4

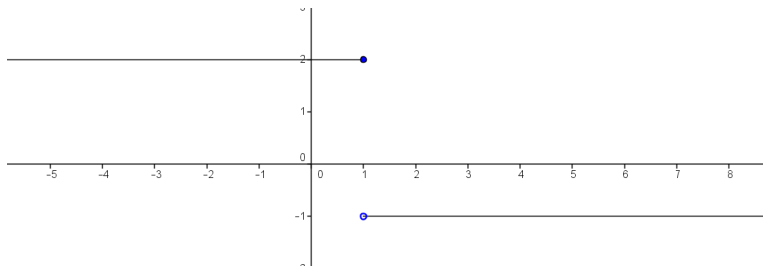


Yes!

# Curve 5

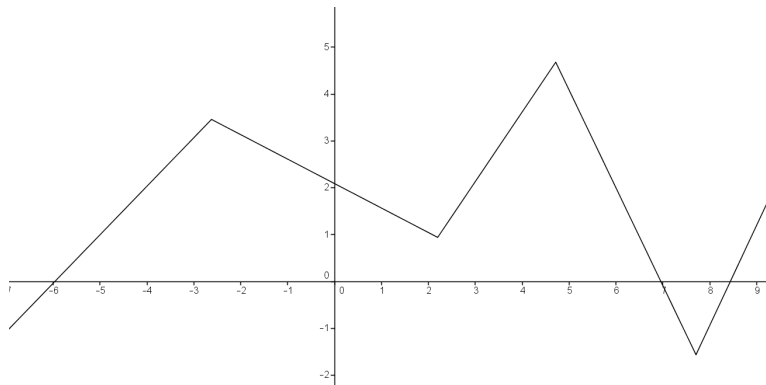


## Curve 5

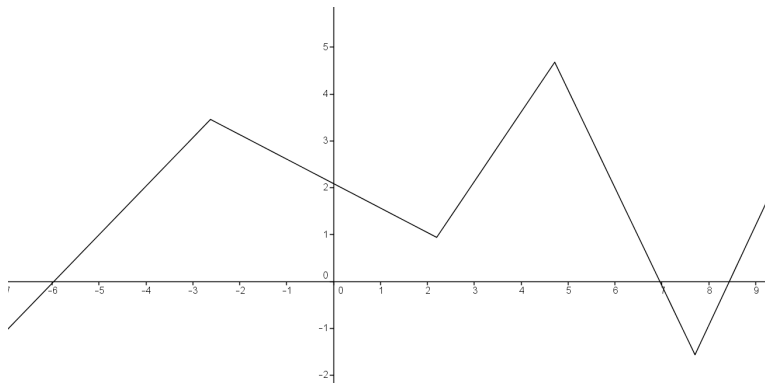


Yes!

## Curve 6

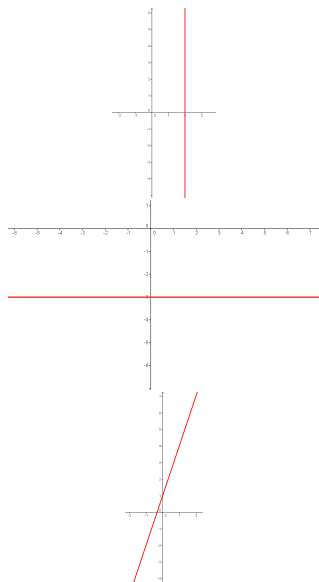


## Curve 6

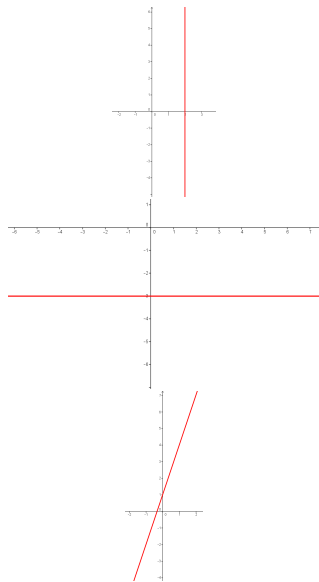


Yes!

# Curves 7

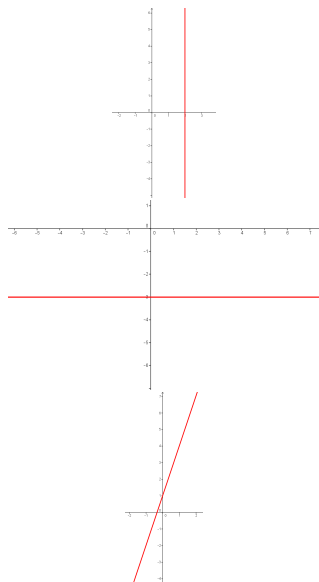


# Curves 7



No!

## Curves 7

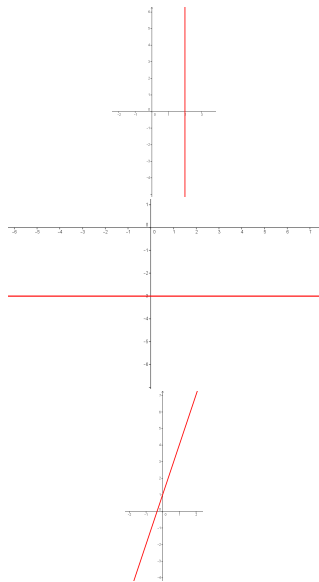


No!

Yes!



## Curves 7



No!

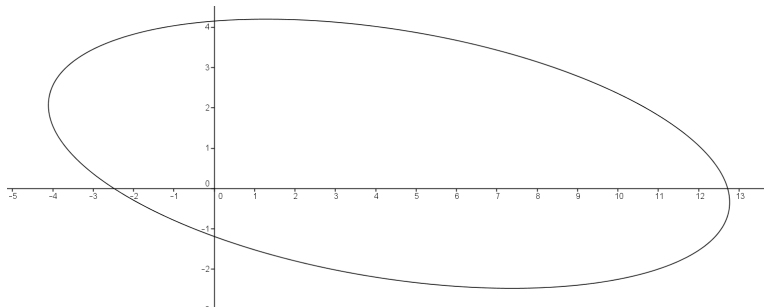
Yes!

Yes!

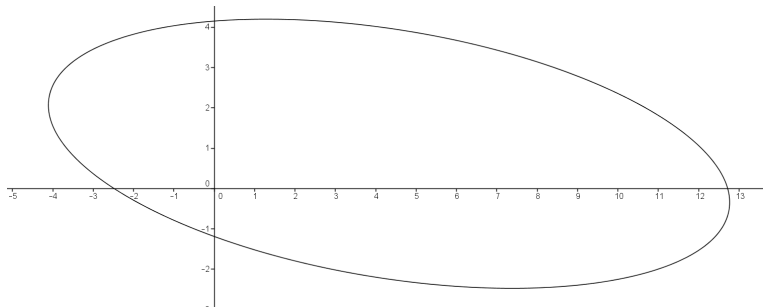
## Exercise 2: injective functions

Say which of the following curves represent an **injective function**.

# Curve 1



# Curve 1

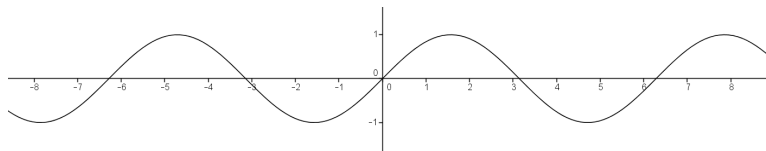


Function: No.

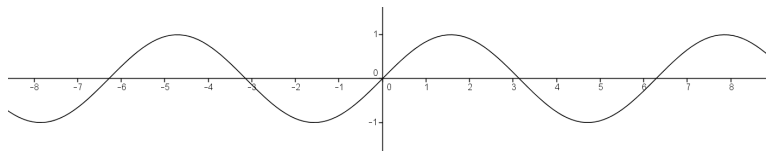


Injective function: **No!**

## Curve 2



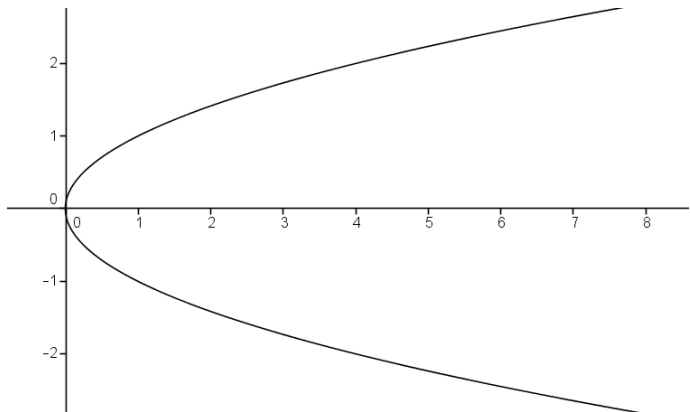
## Curve 2



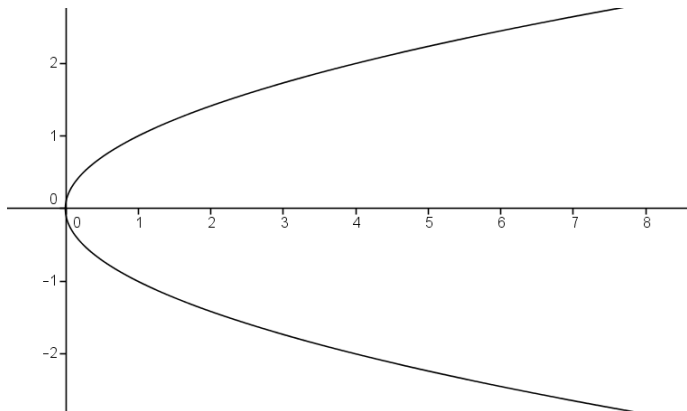
Function: Yes.

Injective function: **No!**

## Curve 3



## Curve 3



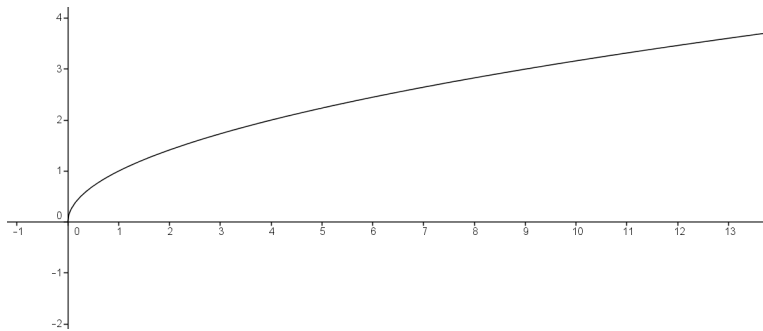
Function: No.



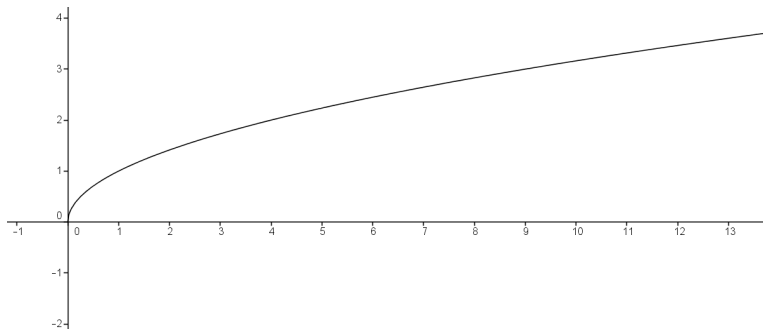
Injective function: **No!**



## Curve 4



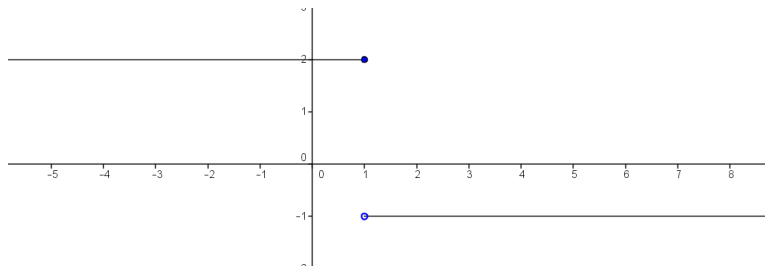
## Curve 4



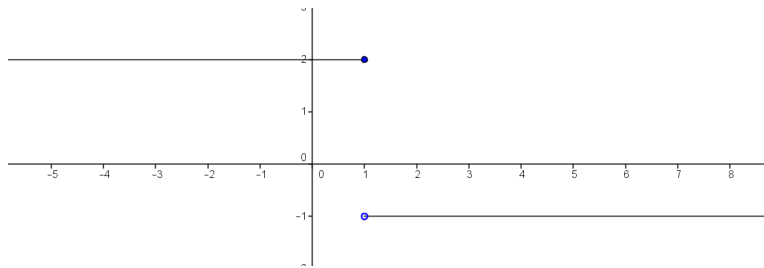
Function: Yes.

Injective function: Yes!

# Curve 5



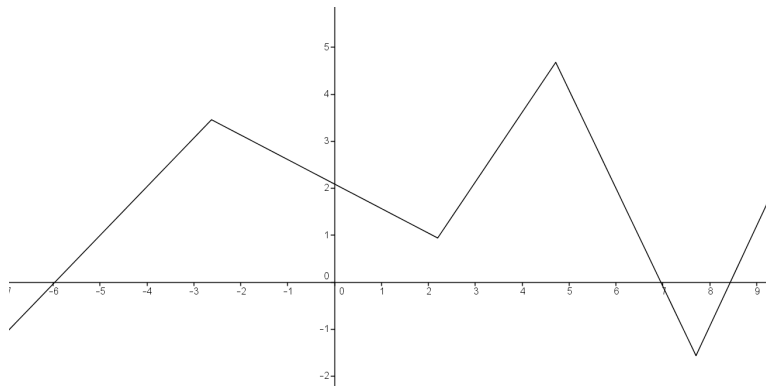
## Curve 5



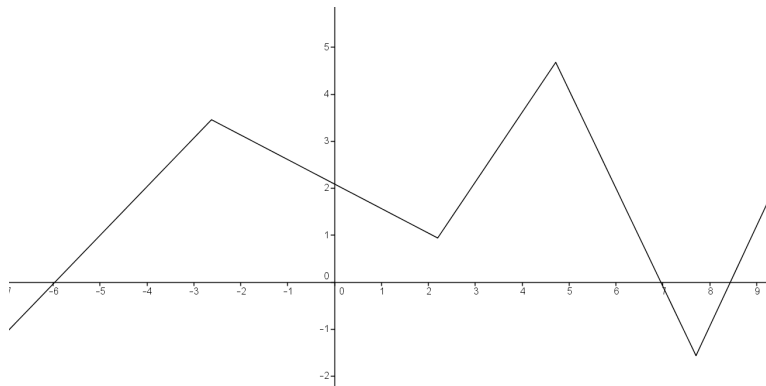
Function: Yes.

Injective function: **No!**

## Curve 6



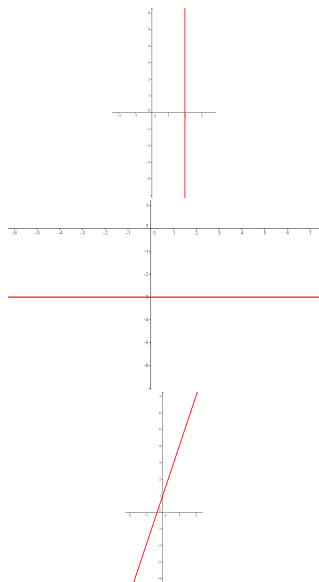
## Curve 6



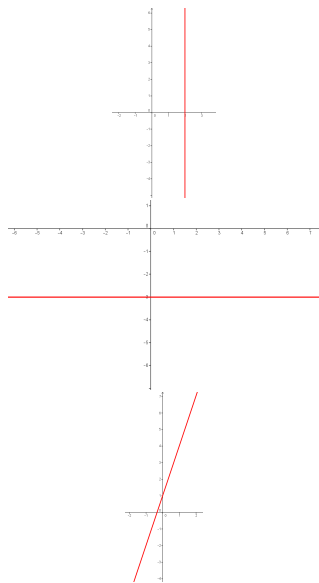
Function: Yes.

Injective function: **No!**

# Curves 7



## Curves 7



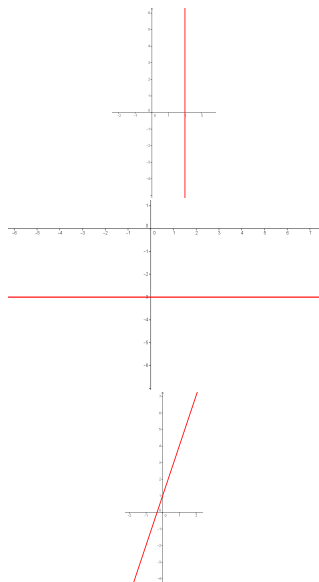
Function: No.



Injective function: **No!**



## Curves 7



Function: No.

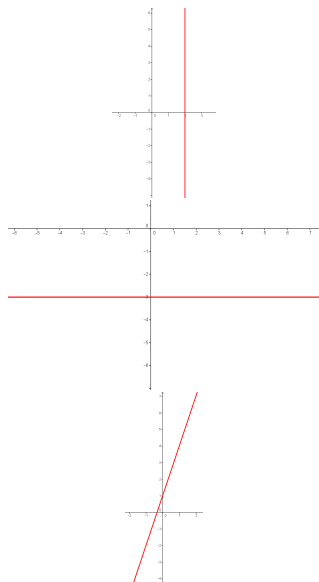


Injective function: **No!**

Function: Yes.

Injective function: **No!**

## Curves 7



Function: No.



Injective function: **No!**

Function: Yes.

Injective function: **No!**

Function: Yes.

Injective function: **Yes!**