Topic: Vertical Line Test

Question: If a perfectly straight vertical line crosses a graph at more than one point, the graph fails the Vertical Line Test.

Answer choices:

A True

B False

Solution: A

A graph passes the Vertical Line Test if it's impossible to draw a perfectly straight vertical line that crosses the graph more than once.

If we can draw a perfectly straight vertical line that crosses the graph more than once, then the graph fails the Vertical Line Test, and the graph does not represent a function.

Topic: Vertical Line Test

Question: Which figure will never pass the Vertical Line Test and therefore can never represent a function?

Answer choices:

A A horizontal line

B A set of six points, all of which have different x-coordinates

C A “slanted” line (neither vertical nor horizontal)

D A circle

Solution: D

A graph fails the Vertical Line Test when we can draw a vertical line that crosses the graph more than once.

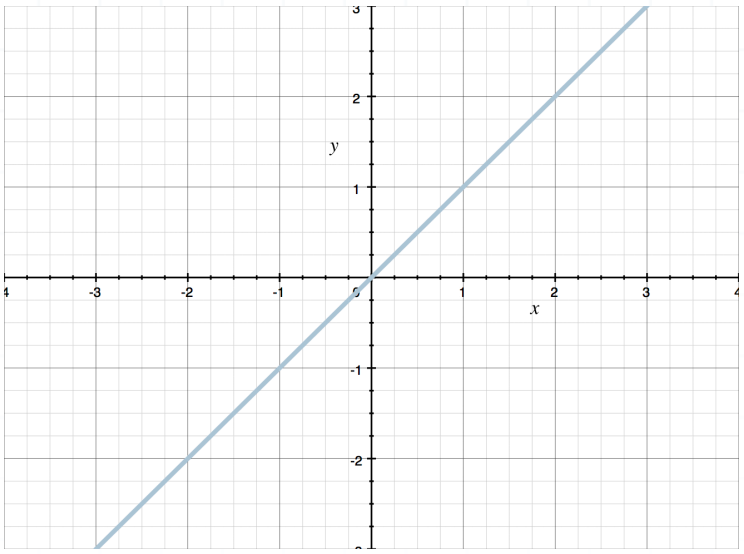
Since we'll always be able to draw a vertical line that crosses the graph of a circle more than once, a circle will always fail the Vertical Line Test, and therefore can never represent a function.

Topic: Vertical Line Test

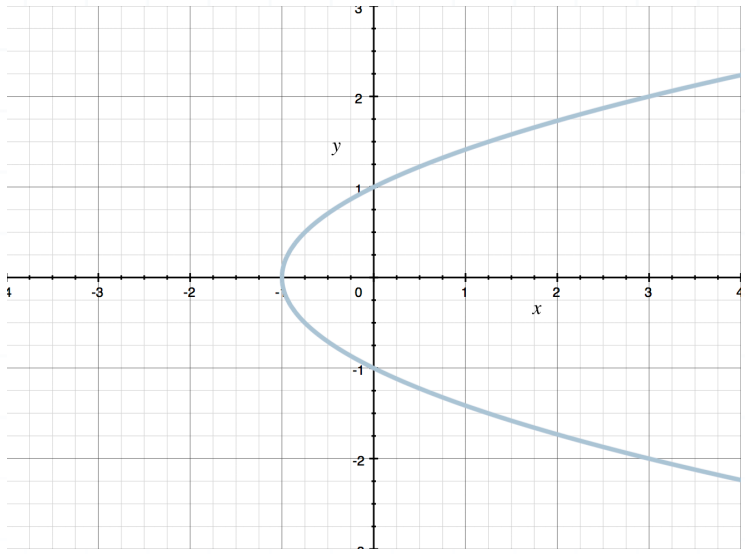
Question: Which graph represents a function?

Answer choices:

A



B



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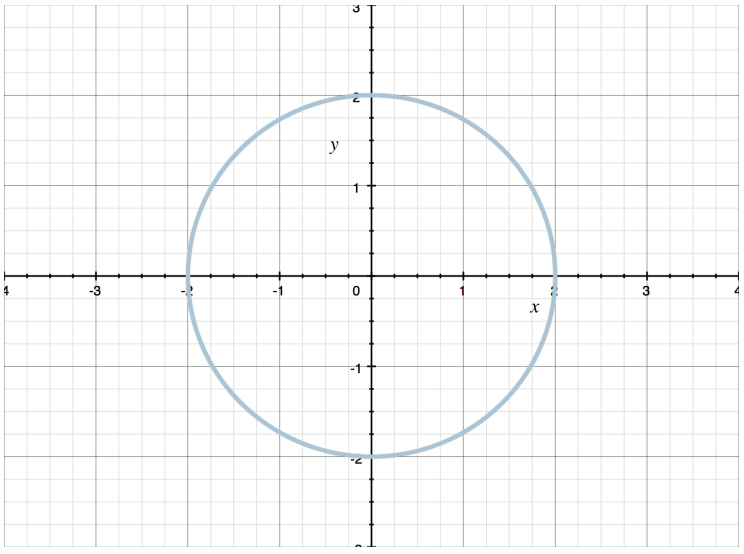
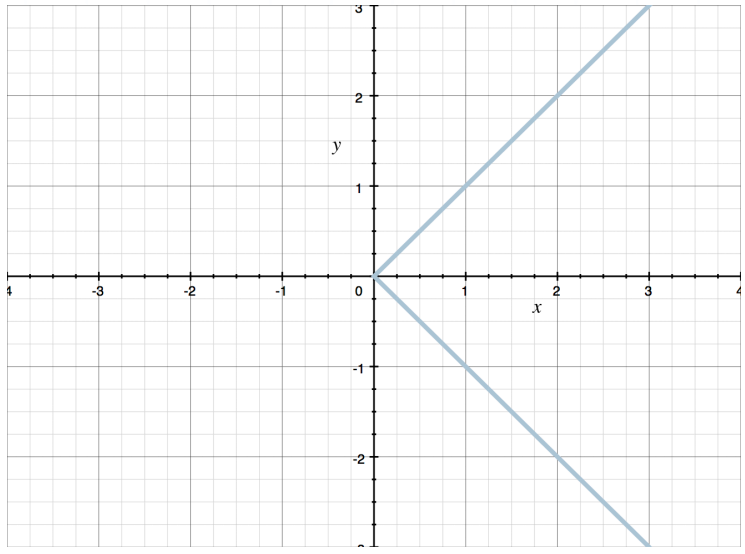


D



Solution: A

The graph in answer choice A represents a function because we can't draw any perfectly vertical line that crosses the graph in more than one place. Therefore, by the Vertical Line Test, the graph represents a function.

On the other hand, for each of the other three graphs, we can draw a perfectly vertical line that crosses the graph in more than one place. Therefore, those graphs don't represent functions.