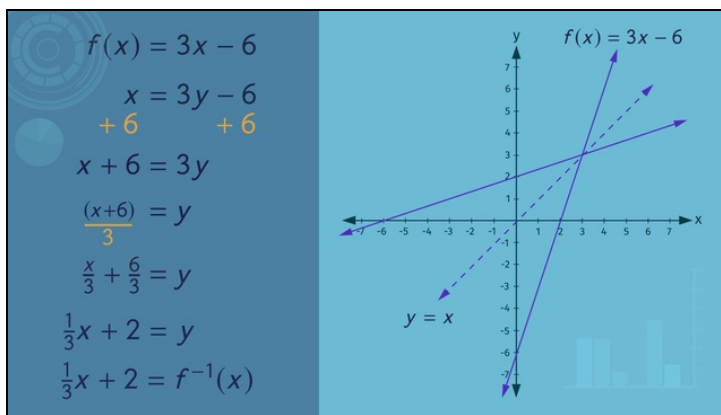




Printable Worksheets from [sofatutor.com](https://www.sofatutor.com)

Inverse Functions



- 1 Discuss how to decide if a relation is a function.
- 2 Explain how to establish the inverse function.
- 3 Find the inverse function of $f(x) = 3x - 6$
- 4 Verify that the following are inverses of each other.
- 5 Determine the corresponding inverse function.
- 6 Establish the corresponding inverse function.
- + with lots of tips, answer keys, and detailed answer explanations for all of the problems.

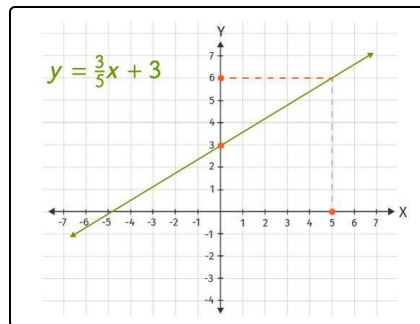


The complete package, including all problems, hints, answers, and detailed answer explanations is available for all [sofatutor.com](https://www.sofatutor.com) subscribers.



Discuss how to decide if a relation is a function.

Choose the correct statements.



- A
To check if a given graph belongs to a function you use the vertical line test.
- B
To check if a given graph belongs to a function you use the horizontal line test.
- C
The existence of an inverse function can be determined by the vertical line test.
- D
The existence of an inverse function can be determined by the horizontal line test.



Hints for solving these problems

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of 6

Discuss how to decide if a relation is a function.

Hint #1

Either of the line tests, vertical or horizontal, asks if any line parallel to one of the coordinate axis has only one point in common with the graph in question.

Hint #2

The difference between any relation and a function is the uniqueness of the y -value assigned to x .

Hint #3

The inverse function must be a function as well.

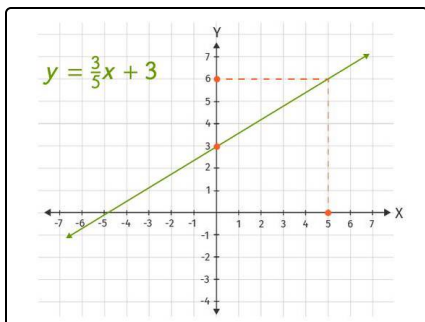


Answers and detailed answer explanations for these problems

1
of 6

Discuss how to decide if a relation is a function.

Answer key: A, D



Keep in mind, that not every relation is also a function.

How can we decide if the graph of a relation is also graph of a function?

Use the vertical line test: if each line parallel to the y -axis has at most one point in common with the graph, then each x is assigned to exactly one y and we have a function. Otherwise, we don't have a function.

Is it also possible to check if a function is invertible?

Of course! You use the horizontal line test. If each line parallel to the x -axis has only one point in common with the graph, then there exists an inverse function.