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QUESTION 2



Rewrite this function using function notation.

$$-3.7x = 3 - y$$

Enter your answer in the space provided.

$f(x) =$

$3.7x + 3$



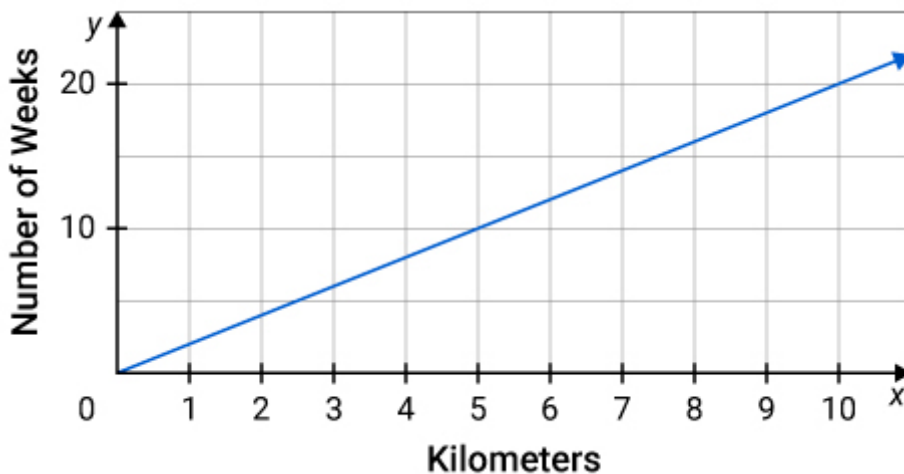
. (Use lower case letters only)

QUESTION 3



A local soccer team travels to play games during the season. The following graph shows how many kilometers they travel over the first 10 weeks.

Describe the characteristics of the relation.



The graph is discrete, but it is not a function.

☒ The graph is a continuous function.



☐ The graph is a discrete function.

☐ The graph is continuous, but it is not a function.

QUESTION 17



Describe the domain, range and graph of this relation shown in the graph.

Drag and drop your answers to correctly complete the sentences.

The domain is

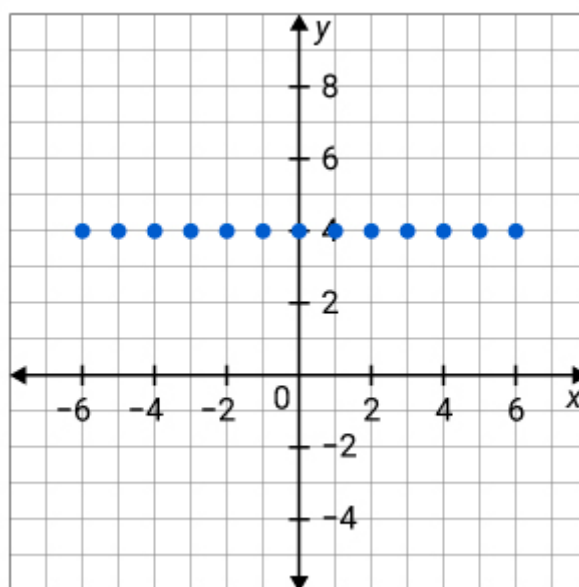
a part of the set of integers. ✓

The range is

$y = 4$ ✓

The relation is a

discrete function but not one-to-one. ✓



$x = 4$

$y \in R$

continuous function and one-to-one

discrete function and one-to-one

$x \in R$

continuous function but not one-to-one

QUESTION 19



Determine the domain and range of this function.

Enter your answers in the spaces provided.

The domain

is -6



$\leq x \leq$

2



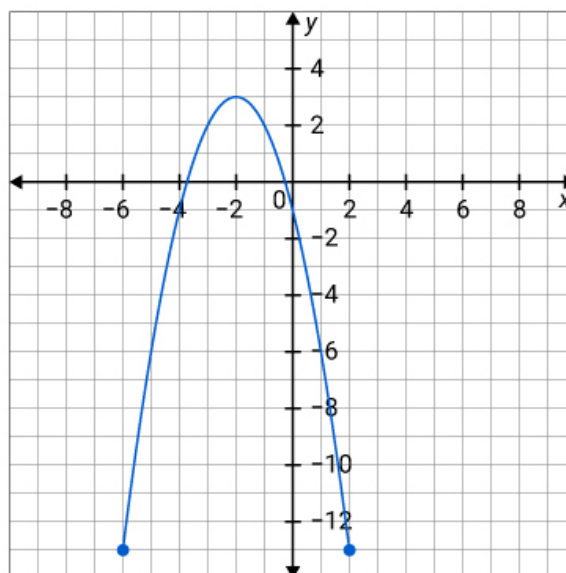
The range

is -13



$\leq y \leq$

3

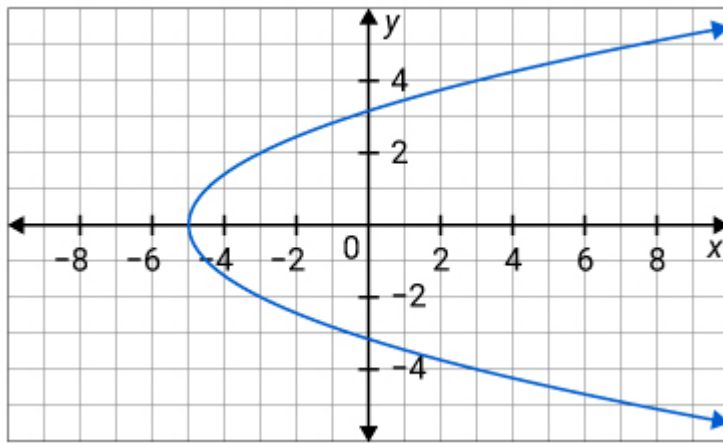


QUESTION 21



What is the domain and range of this relation shown in the graph?

Drag and drop each correct answer into the appropriate box.



Domain:

$-5 \leq x < \infty$ ✓

Range:

$y \in \mathbb{R}$ ✓

$-5 \leq x \leq 5$

$x \in \mathbb{R}$

$-5 \leq y < \infty$

$5 \leq y < \infty$

QUESTION 23

Describe the characteristics of the function shown in the graph.

Select your answers from the drop-down menus.

The domain is

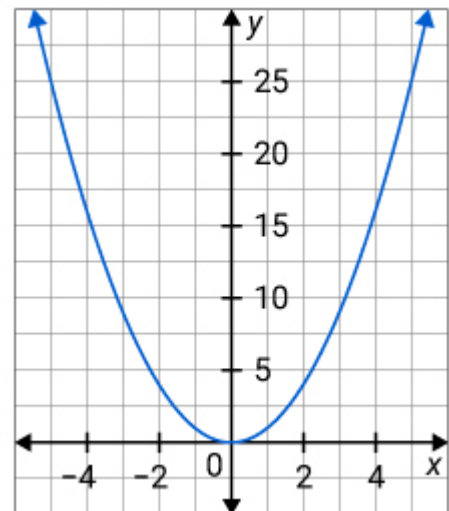
$x \in \mathbb{R}$ ✓ ▼

The range is

$0 \leq y < \infty$ ✓ ▼

The function is

continuous and not one-to-one ✓ ▼



QUESTION 25

Describe the characteristics of the function shown in the graph.

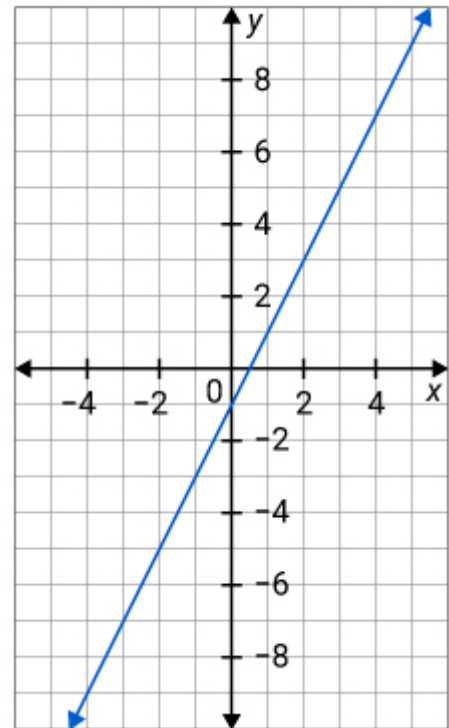
Select your answers from the drop-down menus.

The domain is $x \in \mathbb{R}$ ✓ ▼

The range is $y \in \mathbb{R}$ ✓ ▼

The function is

continuous and one-to-one ✓ ▼



QUESTION 27



Find

$$f(10)$$

for this function.

$$f(x) = \frac{1}{2}x^2 + 3x - 5$$

Enter your answer in the space provided.

$$f(10) =$$

75



QUESTION 29



Determine

$$f\left(\frac{2}{3}\right)$$

for this function.

$$f(x) = 4x^2 - \frac{7}{3}x + \frac{1}{9}$$

Select the correct answer from the drop-down menu.

$$f\left(\frac{2}{3}\right) =$$

$\frac{1}{3}$ ✓ ▼

QUESTION 31



Evaluate this function for the given x-values.

$$f(x) = \frac{1}{2}(x - 4)^2 + x - 1$$

Drag and drop the values to correctly complete the equations.

$$f(-2) =$$

15 ✓

$$f(2) =$$

3 ✓

$$f(0) =$$

7 ✓

− 1

0

− 6

QUESTION 33



Given the function

$$f(x) = 8x + 9$$

, find

$$f(3)$$

.

Enter your answer in the space provided.

$$f(3) =$$

33



QUESTION 35



Given the function

$$f(x) = \frac{1}{4}x^3 - 10$$

, evaluate

$$f(4)$$

.

What is

$$f(4)$$

?



-3



6



0



3

QUESTION 37



Which equation shows this function rewritten using function notation?

$$7x + y = 40$$



$$f(x) = 7x - 40$$



$$f(x) = y + 40$$



$$f(x) = 40 - 7x$$



$$f(x) = 7x + 40$$

QUESTION 39



Rewrite this function using function notation.

$$y + 4x = 3$$

Select all that apply.

☐

$$f(x) = -x$$

☐

$$f(x) = 3 + 4x$$

☐

$$f(x) = 4x + 3$$

☒

$$f(x) = 3 - 4x$$


☐

$$f(x) = 7x$$

☒

$$f(x) = -4x + 3$$



QUESTION 41



Select your answer from the drop-down menu.

The function

$$5 = 2x - y$$

can be written using function notation as

$f(x) = 2x - 5$ ✓ ▼

QUESTION 43



Drag and drop the function rewritten in function notation to match each function.

Function	The function using function notation
$y - 0.5x = 6$	$f(x) = 0.5x + 6$ ✓
$-6 - y = -0.5x$	$f(x) = 0.5x - 6$ ✓
$-y = 0.5x + 6$	$f(x) = -0.5x - 6$ ✓

$f(x) = -0.5x + 6$

QUESTION 47



Imani is reading a book. The graph shows how many pages she read and the total time in minutes it took her to read them.

Describe the graph that models this situation.

The graph is

continuous ✓

because it shows

a line ✓

The graph is a

function ✓

because it passes the

vertical ✓

line test

and it is

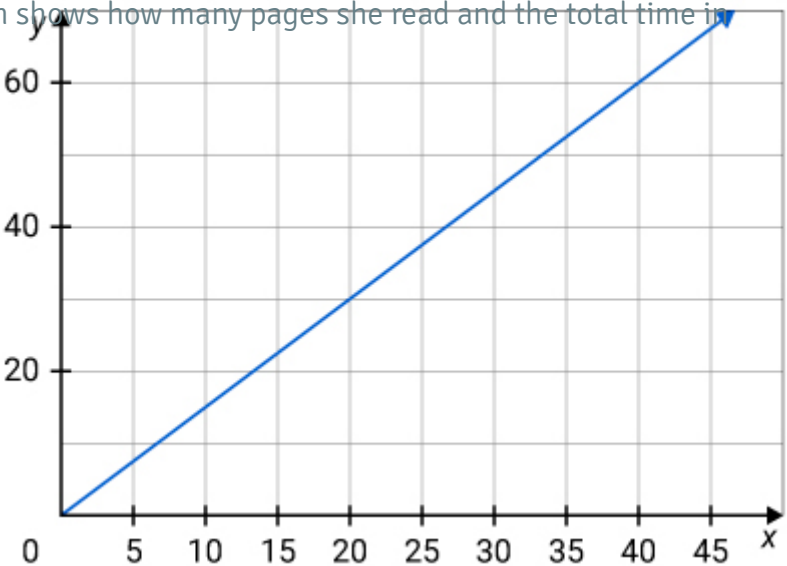
one to one ✓

because there is a

unique ✓

y-

value for each x-value.



disconnected points

not a function

discrete

horizontal

QUESTION 48



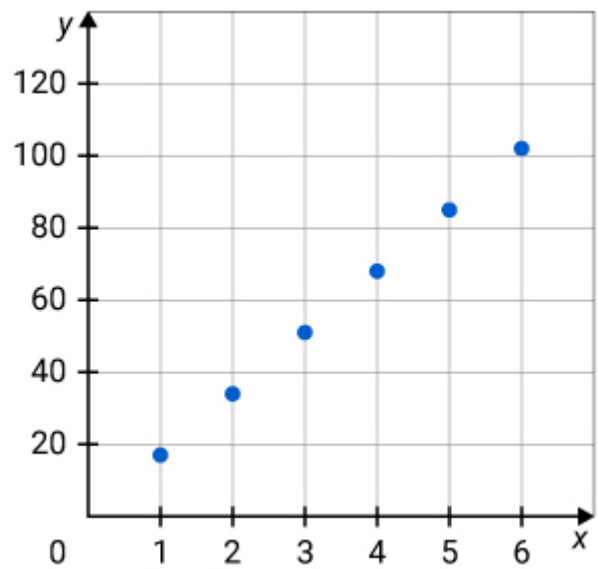
Ali purchases packs of golf balls. There are 3 golf balls in a pack. The graph shows how many golf balls Ali has purchased and their total cost in dirhams. Describe the relation shown in the graph that models this situation.

Select your answer from the drop-down menu.

The graph shows that a

discrete function ✓ ▼

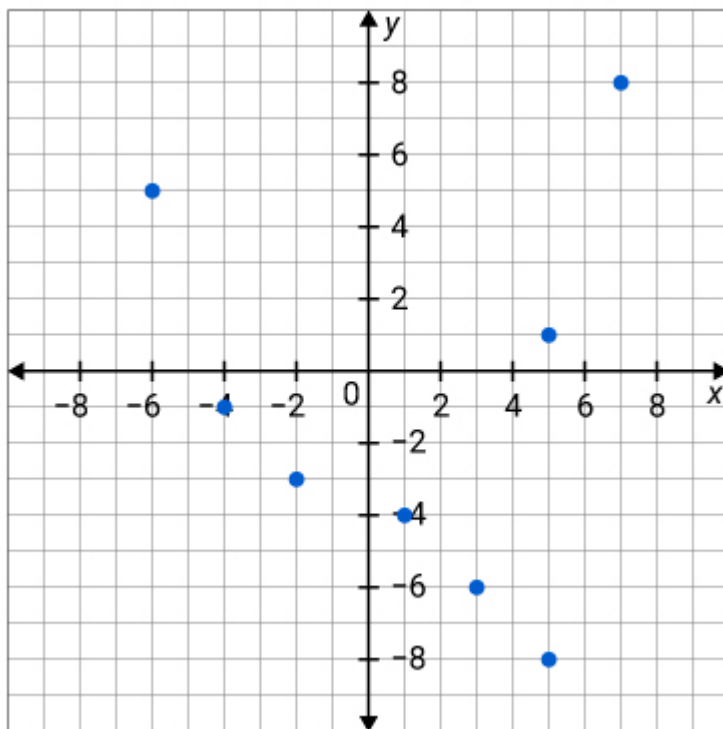
best models this situation.



QUESTION 49



Describe the relation shown in the graph.



discrete relation



discrete function



continuous function

☐ discrete function

QUESTION 50



Describe the relation shown on this graph.
Drag and drop your answers to correctly complete the sentences.

This relation is not a function ✓

because it fails ✓ the

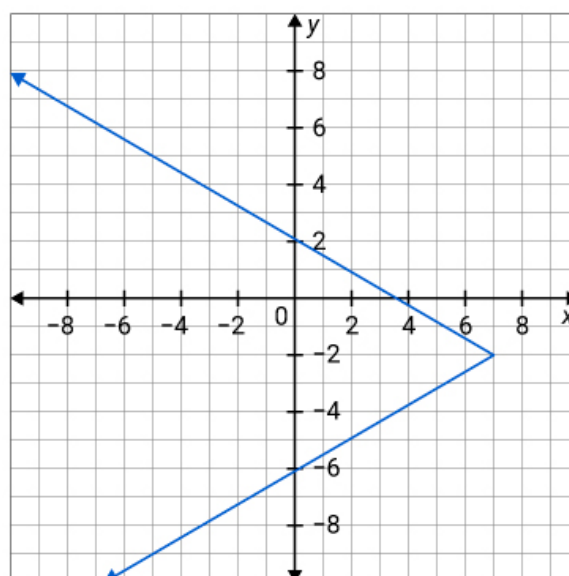
vertical line test. It is

continuous ✓

because the

points on the graph are

connected ✓.



a function

passes

discrete

disconnected

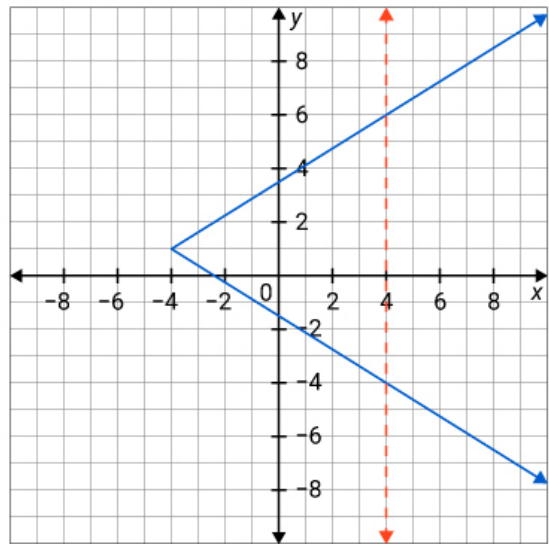
QUESTION 51



Enter your answers in the spaces provided.

According to the vertical line shown on the graph of this relation, the graph does not show a function because the vertical line passes through the two points (

4 ✓ ,
6 ✓) above the x -
axis and (4 ✓ ,
-4 ✓) below the x -
axis.



QUESTION 52



Determine if the graph shows a function.
Drag and drop your answers to correctly complete the sentences.

The graph

represents ✓

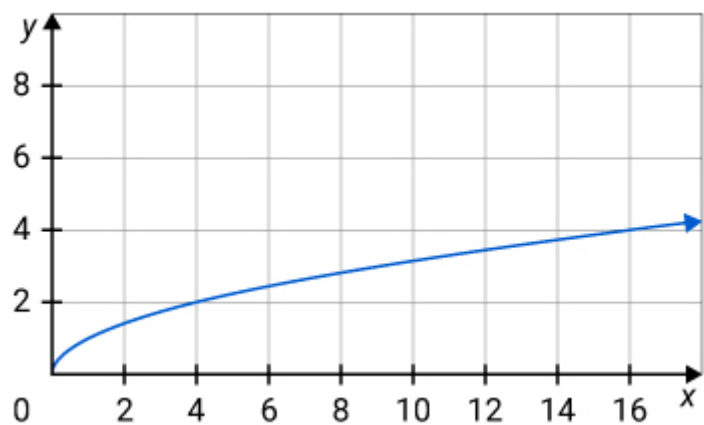
a

function because

every vertical ✓

line that intersects the graph intersects at

exactly one point ✓



infinitely many

every horizontal

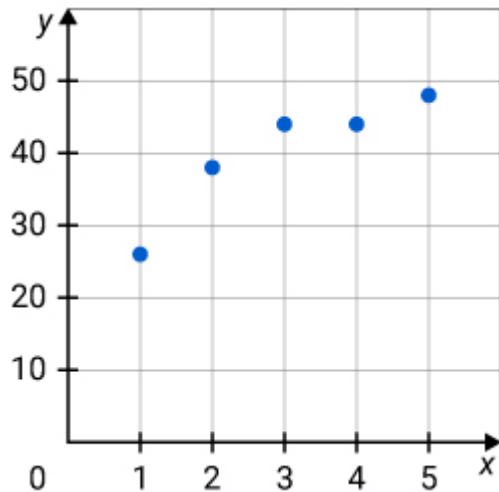
does not represent

two points



A class is writing lines of code for a computer science activity. The graph shows how many lines of code the class writes every day during 5 days of a week.

What are the characteristics of this relation?
Select all that apply.



function but not one-to-one



The graph fails the vertical line test.



continuous



one-to-one function



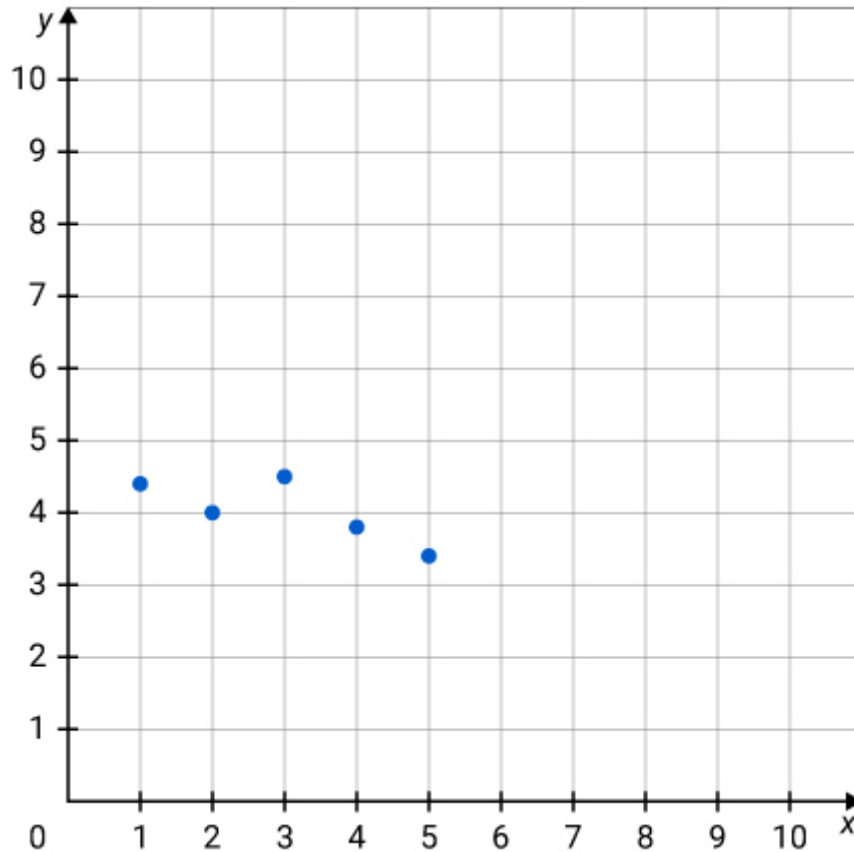
discrete



not a function



Faris is preparing for a swimming competition. He trains daily for 5 days doing 10 lengths per session. The graph shows the time in minutes taken in every practice session for the 5 days. Describe the characteristics of this relation.



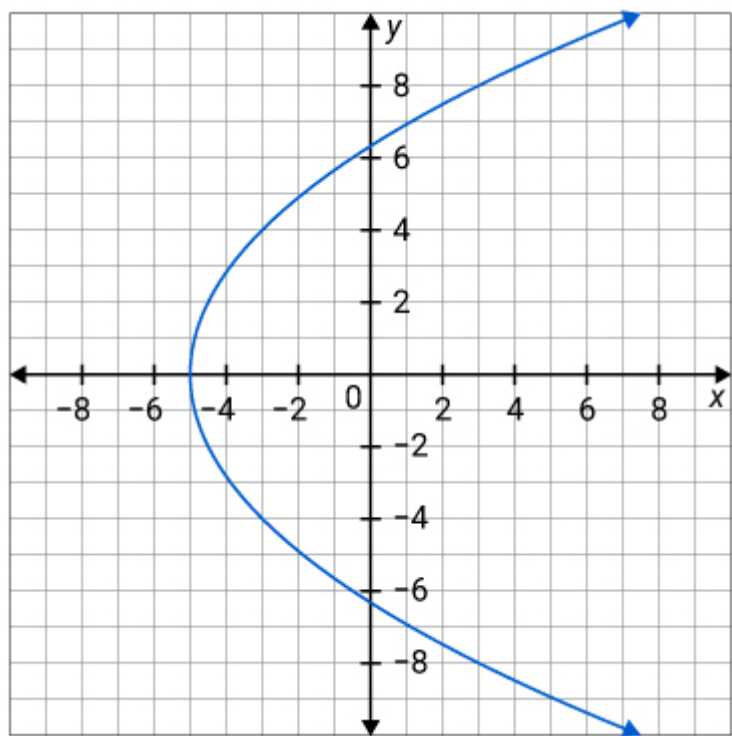
☐ The graph is continuous, but it is not a function.

☒ The graph is a discrete function. ✓

☐ The graph is discrete, but it is not a function.

☐ The graph is a continuous function.

Describe the relation shown in the graph.

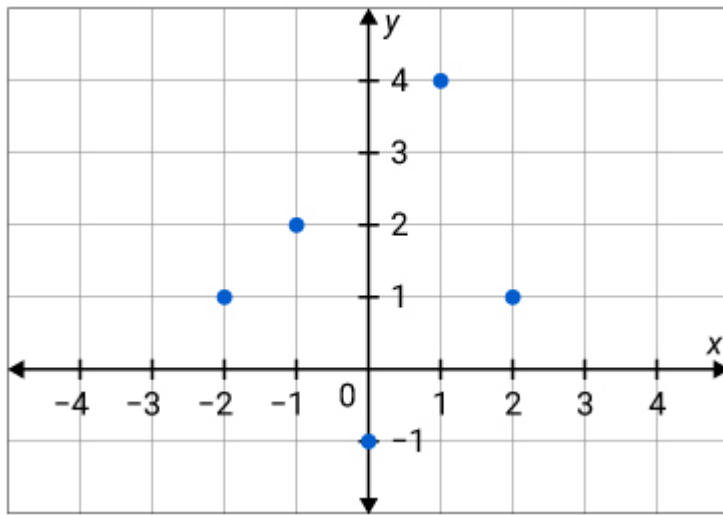


The relation shown in the graph is a

continuous relation and fails the vertical line test. ✓ ▼

QUESTION 56

Describe the relation shown in the graph. Select all that apply.



discrete relation



fails vertical line test



one-to-one function



not a function



function but not one-to-one

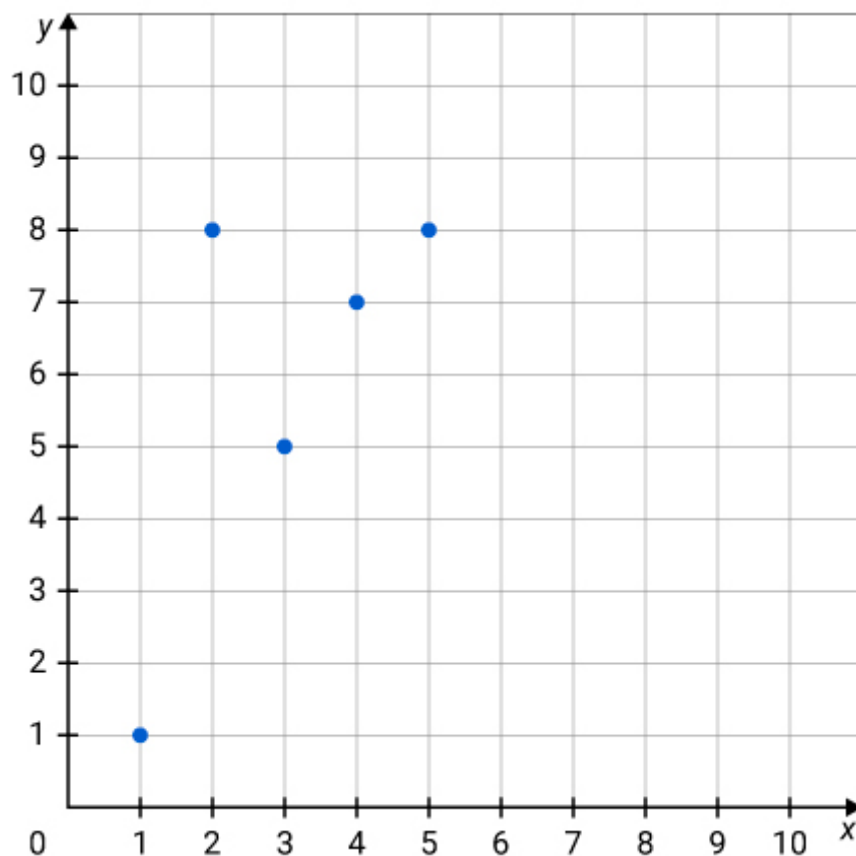


continuous relation

QUESTION 57



Describe the relation shown in the graph.



☐ The graph is continuous, but it is not a function.

☐ The graph is discrete, but it is not a function.

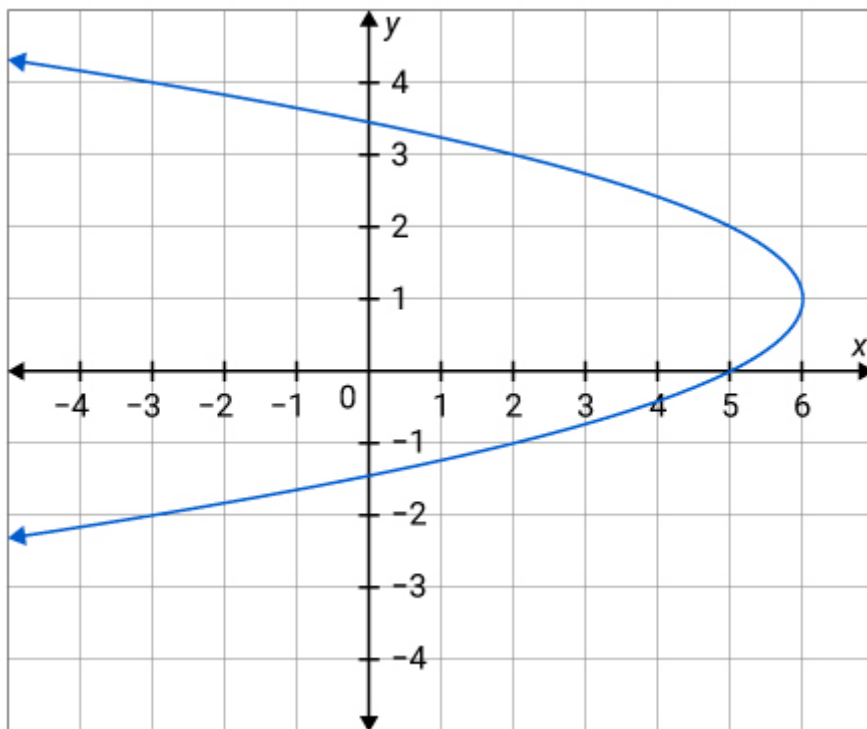
☒ The graph is a discrete function. ✓

☐ The graph is a continuous function.

QUESTION 58



Explain how you know the graph does not show a function.



Select the correct answers from the drop-down menus.

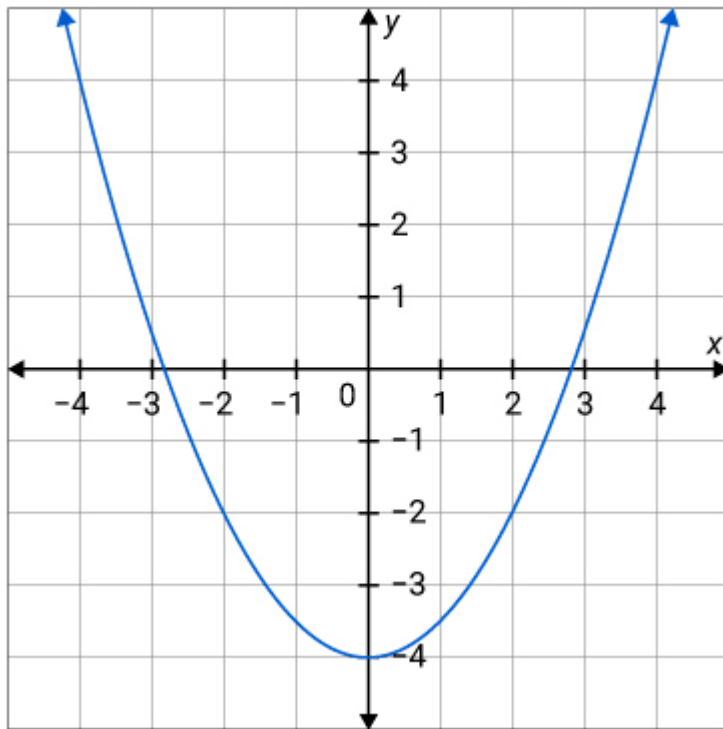
Some vertical lines ☒ ☐ pass through ☒ ☐ on the graph. So,

it is not a function.

QUESTION 59



Using the vertical line test, what can be determined about the graph?

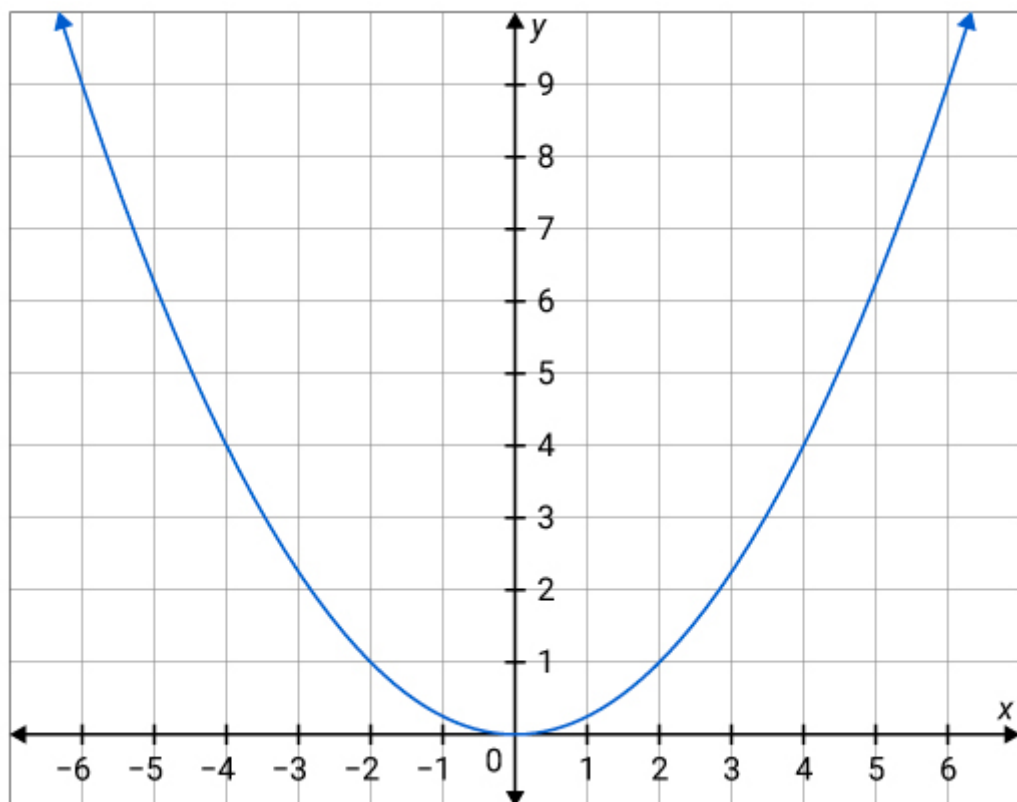


- ☐ The graph is not a relation.
- ☐ The graph does not represent a function.
- ☐ The graph is a one-to-one function.
- ☒ The graph represents a function. ✓

QUESTION 60



Describe how you know the graph shows a function.



Select the correct answers from the drop-down menus.

Every vertical line



passes through

1 point



on the graph. So, it

is a function.