

Algebra 1 11/2

Warm Up IXL

Algebra 1

B.4

1-7 Functions

I can determine whether a relation is a function and find function values

Function

Special type of relation where there is exactly one output value for every input value

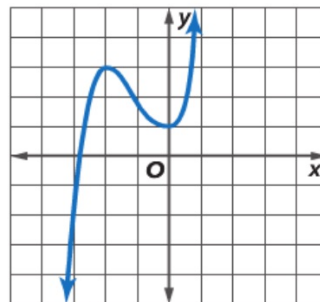
For every x-value there is one and only one y-value

KeyConcept Function

Words

A function is a relation in which each element of the domain is paired with *exactly* one element of the range.

Examples



I can determine whether a relation is a function and find function values
 To determine if a relation is a function look for repeat x values to see if they go to:

1. Same y-value, then it is a function
2. Different y-values, then it is not a function

Ex. 1 Determine whether each relation is a function. Explain

A.



Function
 No Repeat x-values

B.

Domain	1	3	5	1
Range	4	2	4	-4

Not function
 $1 \rightarrow 4$ and $1 \rightarrow -4$

C.

$\{(2, 1), (3, -2), (3, 1), (2, -2)\}$

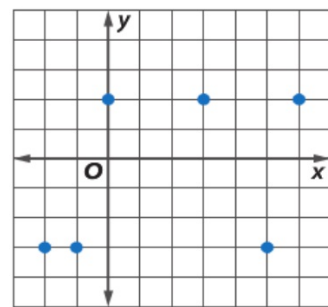
Not function

$3 \rightarrow -2$ and $3 \rightarrow 1$ $2 \rightarrow 1$ and $2 \rightarrow -2$

I can determine whether a relation is a function and find function values

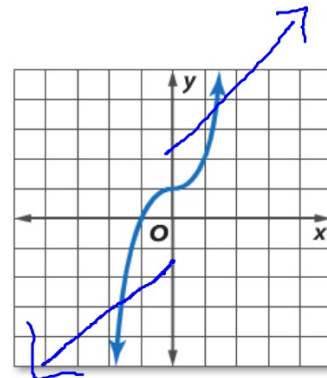
Discrete function

a function whose graph consists of points that are not connected



Continuous function

a function whose graph consists of a smooth line or curve



I can determine whether a relation is a function and find function values

Ex. 2 ICE SCULPTING At an ice sculpting competition, each sculpture's height was measured to make sure that it was within the regulated height range of 0 to 6 feet. The measurements were as follows: Team 1, 4 feet; Team 2, 4.5 feet; Team 3, 3.2 feet; Team 4, 5.1 feet; Team 5, 4.8 feet.

A. Make a table of values showing the relation between the ice sculpting team and the height of their sculpture.

Team | Height

Team Number	1	2	3	4	5
Height (ft)	4	4.5	3.2	5.1	4.8

B. Determine the domain and range of the function.

$$D: \{1, 2, 3, 4, 5\}$$

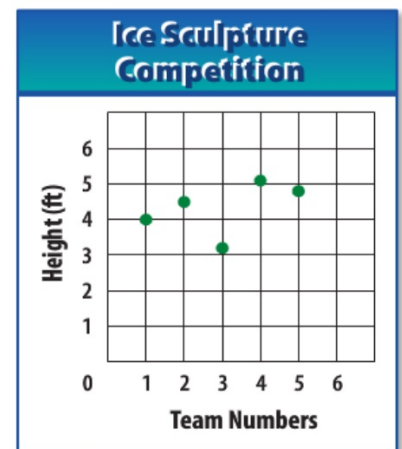
$$R: \{4, 4.5, 3.2, 5.1, 4.8\}$$

C. Write the data as a set of ordered pairs. Then graph the data.

$$\{(1, 4), (2, 4.5), (3, 3.2), (4, 5.1), (5, 4.8)\}$$

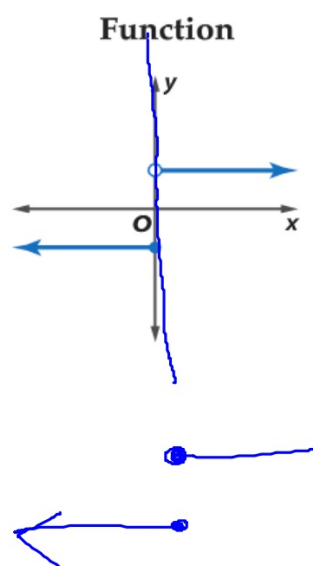
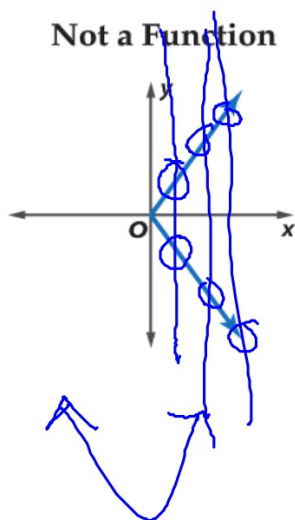
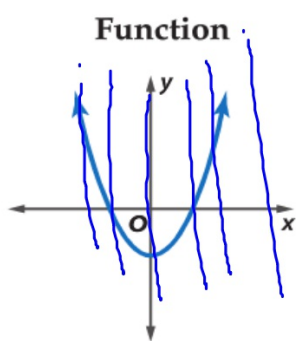
D. State whether the function is *discrete* or *continuous*. Explain your reasoning.

Discrete represents different teams.



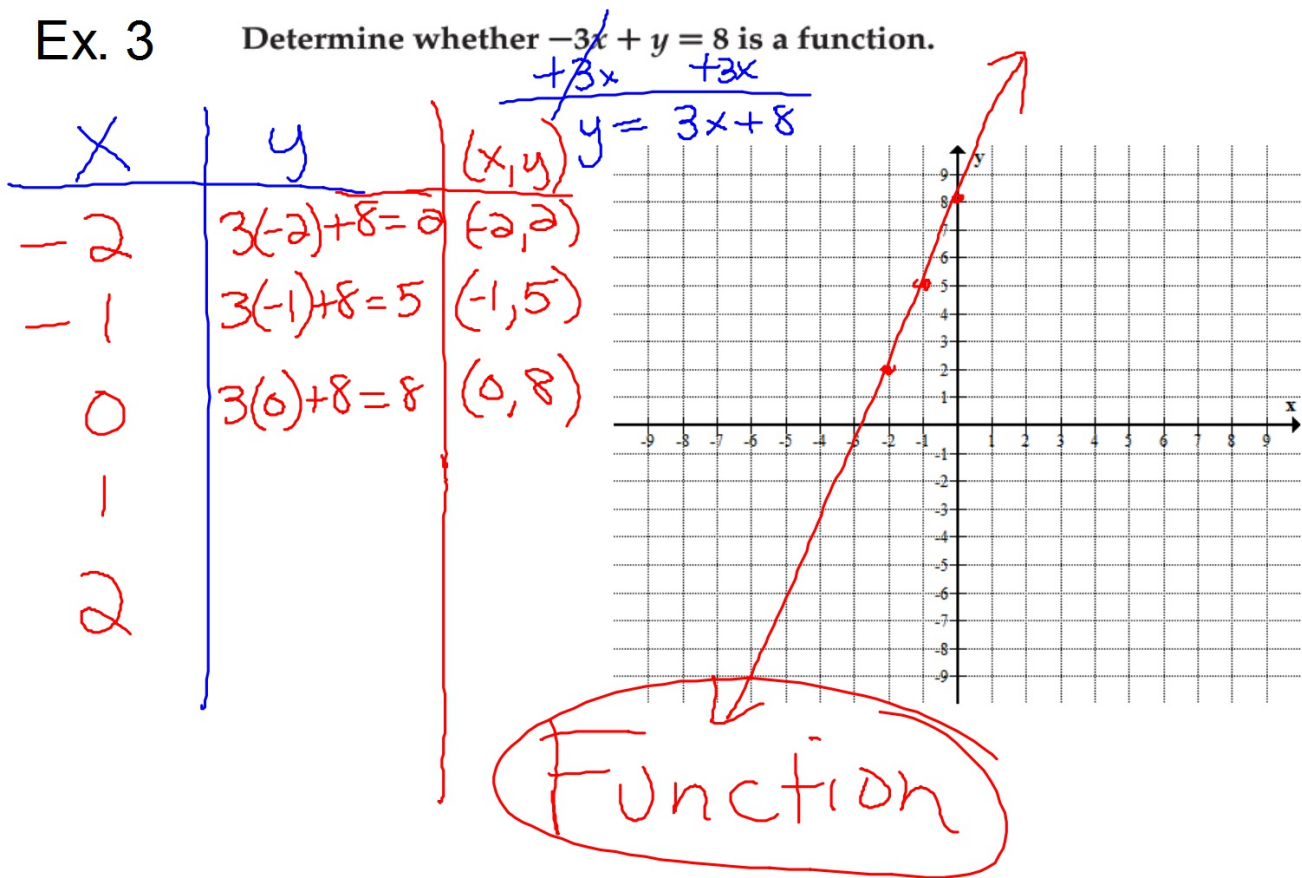
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Vertical Line Test (Pencil Test)

if a vertical line intersects the graph more than once
then the graph is not a function



I can determine whether a relation is a function and find function values

Ex. 3 Determine whether $-3x + y = 8$ is a function.



I can determine whether a relation is a function and find function values

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IXI Hmwk Algebra 1 Q.4-Q.5

