

Algebra 1 1.7

Determine whether a relation is a function.

Find function values

relation

function

discrete

continuous

vertical line test

-

Every input has exactly one output!

KeyConcept Function

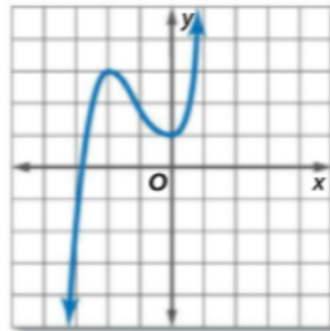
Words

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

Examples



One to one



ConceptSummary Representations of a Function

Table

x	y
-2	1
0	-1
2	1

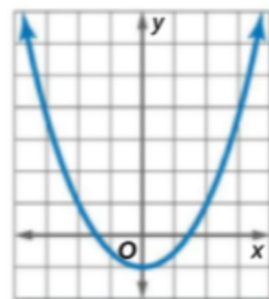
Mapping



Equation

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

Graph



Determine whether each relation is a function. Explain.



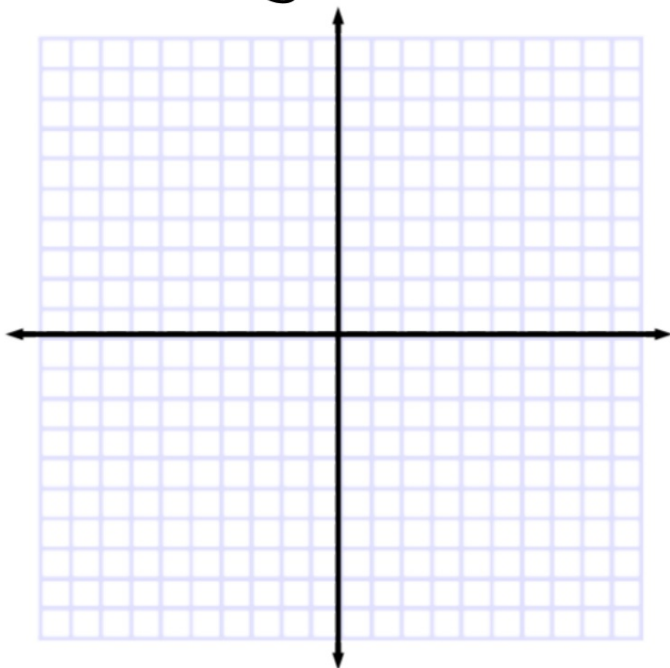
2.

Domain	Range
2	6
5	7
6	9
6	10

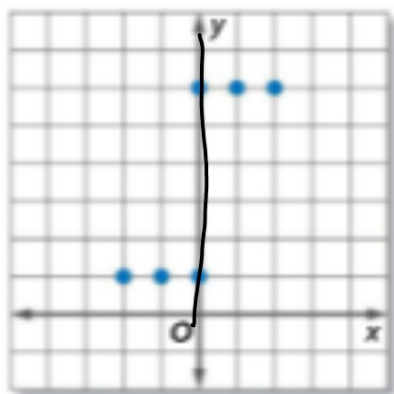
3. $\{(2, 2), (-1, 5), (5, 2), (2, -4)\}$

4. $y = \frac{1}{2}x - 6$

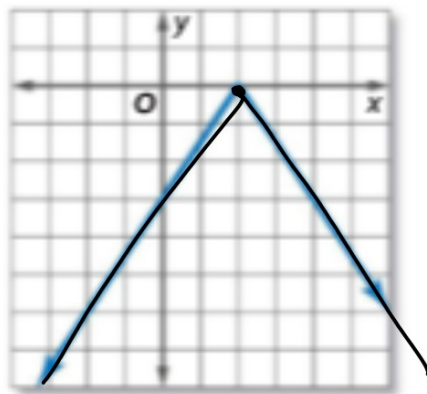
$y = mx + b$



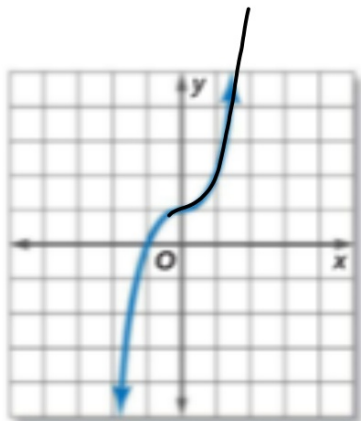
5.



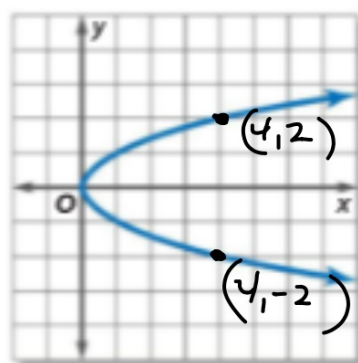
6.



7.



8.



5 If $f(x) = 6x + 7$ and $g(x) = x^2 - 4$, find each value.

$$6r + -12 + 7 = 6r - 5$$

$6(r-2) + 7$

11 $f(-3) = 6(-3) + 7$
 $-18 + 7 = -11$

12 $f(m) = 6(m) + 7 = 6m + 7$

13 $f(r - 2)$

14. $g(5)$

15. $g(a) + 9$

16. $g(-4t)$

17. $f(q + 1)$

18. $f(2) + g(2)$

19. $g(-b)$

If $f(x) = -2x - 3$ and $g(x) = x^2 + 5x$, find each value.

33. $f(-1)$

34. $f(6)$

35. $g(2)$

36. $g(-3)$

37. $g(-2) + 2$

38. $f(0) - 7$

