ALBERT

Name _____ Date _____

Identifying Functions Worksheet

Grade 8 · Common Core 8.F.A.1

> Understand that a function is a rule that assigns to each input exactly one output. The graph of a function is the set of ordered pairs consisting of an input and the corresponding output.

Practice

Builds the skill step by step.

1. Which phrase finishes the definition correctly? A function is a rule that assigns to each input...

   A. exactly one output

   B. at least two outputs

   C. an output equal to the input

   D. an output no other input uses

2. Does the table show a function? Answer Yes or No.

Input x	Output y
1	5
2	7
3	9
4	11

3. Is the relation {(2, 4), (3, 6), (2, 8), (5, 10)} a function? Answer Yes or No.

4. A function rule says: multiply the input by 3, then subtract 2. What is the output when the input is 5?

5. Which set of ordered pairs is a function?

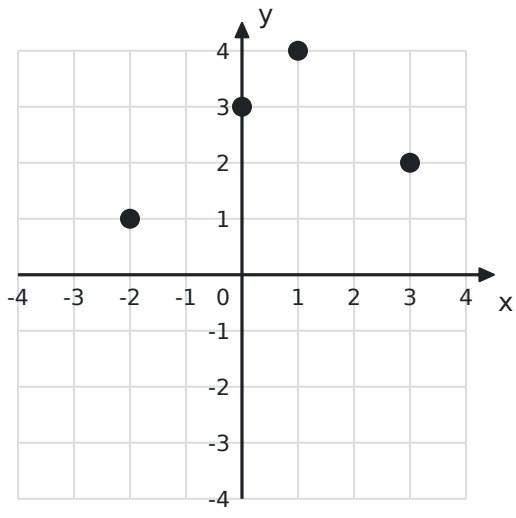
   A. {(1, 2), (1, 3), (2, 4), (3, 5)}

   B. {(4, 0), (4, 1), (4, 2), (4, 3)}

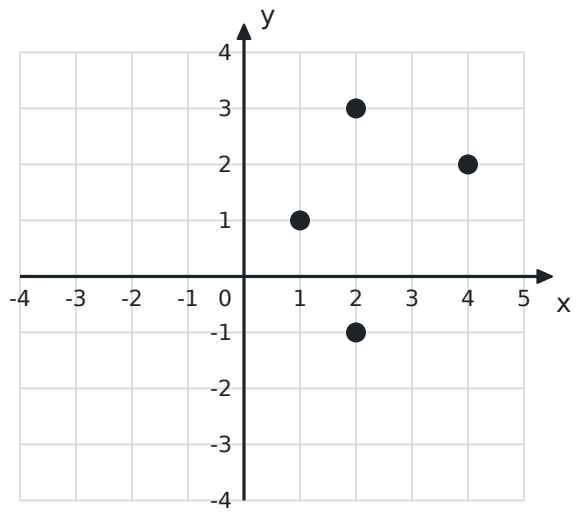
   C. {(2, 5), (3, 6), (2, 7), (4, 8)}

   D. {(0, 1), (1, 1), (2, 1), (3, 1)}

6. Does the graph show a function? Answer Yes or No.



7. Does the graph show a function? Answer Yes or No.



8. A function has the rule y = 2x + 1. Write the ordered pair for the input x = 4.

9. The table shows a function. Which number cannot go in the empty input cell?

Input x	Output y
1	4
2	6
3	8
?	10

A. 0

B. 2

C. 4

D. 5

10. A coach pairs each player on a team (input) with that player's jersey number (output). Each player wears one number. Is this a function? Answer Yes or No.

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On Level

Grade-level practice.

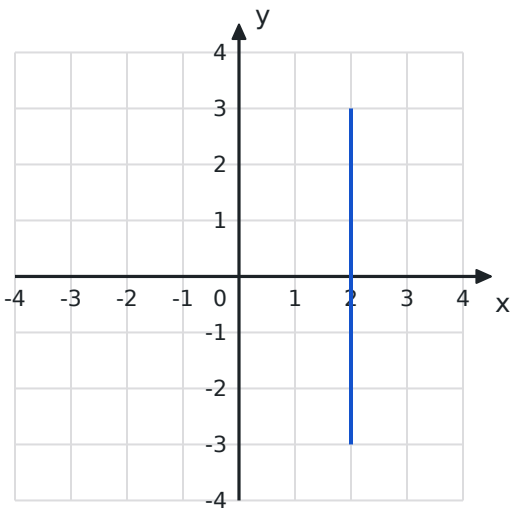
1. Does the table show a function? Answer Yes or No.

x	y
−2	4
−1	1
0	0
1	1
2	4

2. Does the table show a function? Answer Yes or No.

x	y
3	1
5	2
5	3
7	4

3. The graph is a line segment. Is it the graph of a function? Answer Yes or No.



4. A function has the rule $y = 4 - 3x$. What is the output when the input is -2?

5. Which statement about the relation {(1, 7), (2, 7), (3, 7), (4, 7)} is true?

   A. It is not a function, because the output 7 repeats.

   B. It is not a function, because there is only one output.

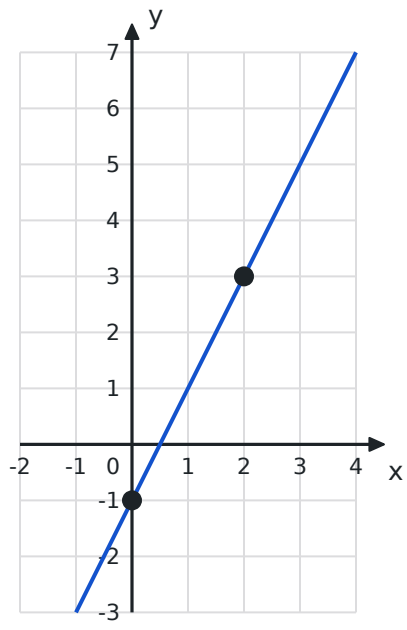
   C. It is a function, because each input has exactly one output.

   D. It is a function, because each output has exactly one input.

6. The table pairs a height in inches (input) with a student (output). Is the student a function of the height? Answer Yes or No.

Height (in.)	Student
60	Ana
62	Ben
60	Cole
65	Dee

7. The line on the grid is the graph of a function. What output does the function give for the input 3?



8. Which pairing is NOT a function?

   A. Each person in a town (input) paired with the town's zip code (output)

   B. Each day last week (input) paired with that day's high temperature (output)

   C. Each number of hours worked (input) paired with the pay at $12 per hour (output)

   D. Each zip code (input) paired with the people who live there (output)

9. A function rule says: divide the input by 4, then add 3. Which input gives an output of 8?

10. A function has the rule $y = 5 - x$. Write the ordered pairs for the inputs 0, 1 and 2.

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Challenge

Multi-step and word problems that stretch it.

1. Jordan says the table does not show a function because the output 9 appears twice. Is Jordan right? Explain.

x	y
−3	9
0	0
3	9

2. The relation {(1, 3), (2, 5), (k, 9), (4, 11)} is a function for most values of k. List every value of k that would make it NOT a function.

3. A function has the rule $y = x^2$. Its inputs are −2, −1, 0, 1 and 2. How many different outputs does it have?

4. The graph of a relation contains the point (5, 2). Which point, if added, would make the relation NOT a function?

   A. (5, −2)

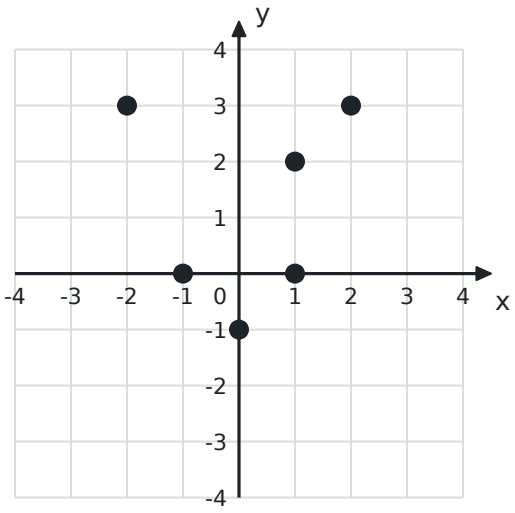
   B. (2, 5)

   C. (−5, 2)

   D. (6, 2)

5. A taxi fare is a function of the distance driven: a 2.50-dollar base fare plus 1.75 dollars for each mile. What is the fare for a 6-mile ride?

6. The graph shows six points. It is not a function. Removing one point would make it a function. Give the coordinates of both points that could be the one removed.



7. Which equation does NOT define y as a function of x?

   A. $y = 3x - 7$

   B. $y = x^2$

   C. $x = 4$

   D. $y = 5$

8. A store pairs each price (input) with the items sold at that price (output). Several items cost $4.99. Is this pairing a function? Explain.

9. The table shows a function that follows one rule. What output goes with the input 10?

x	0	1	2	3
y	7	10	13	16

10. Is the side length of a square a function of its perimeter? Answer Yes or No.