

1. Is this a function? $\{(1,2), (2,4), (3,6)\}$

Check inputs: 1, 2, 3 - all different

Each input has one output

Answer: Yes

2. Is this a function? $\{(1,5), (2,7), (1,9)\}$

Input 1 appears twice with different outputs (5 and 9)

Answer: No

3. Is this a function? $\{(3,4), (5,4), (7,4)\}$

Inputs 3, 5, 7 all different

Repeated OUTPUTS are allowed

Answer: Yes

4. Machine rule: 'double the input.' Input 6 gives?

6×2

Answer: 12

5. Table: $x = 1,2,3,4$ with $y = 3,6,9,12$. Is it a function? What is the rule?

Each x has one y

Each $y = 3$ times x

Answer: Yes; $y = 3x$

6. Is this a function? $x = 2,4,2,6$ with $y = 1,3,5,7$

$x = 2$ appears twice with outputs 1 and 5

Answer: No

7. A vending machine gives one snack per code. Function or not?

Each input (code) gives exactly one output

Answer: Function

8. Rule: 'the output is the input squared.' Complete: input -3 gives?

$(-3)^2$

Answer: 9

9. $\{(0,1), (1,3), (2,5), (k,7)\}$ is a function. Which value can k NOT be? ★ challenge

k cannot repeat an existing input with a new output

$k = 0, 1$, or 2 would break it (7 differs from 1, 3, 5)

Answer: k cannot be 0, 1, or 2

10. A relation pairs each student with every class they take (most take 6). Function? Why? ★ challenge

One input (student) maps to MANY outputs (classes)

Answer: Not a function - multiple outputs per input