Name KEY Date _____ Period _____

Homework: Is it a Function? and Multiple Representations of Functions

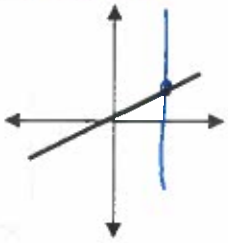
Define a function: every input (x) has only one output (y)

How do you determine if a set of data or a graph represents a function?

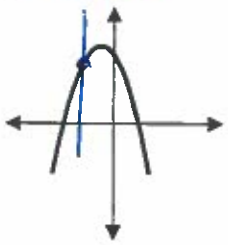
set of data → x's cannot repeat graph → vertical line test

Directions: Determine whether or not each relation is a function. (For #7-8, sketch your own.)

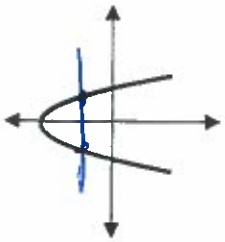
1. function



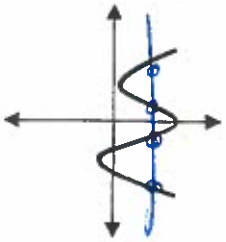
2. function



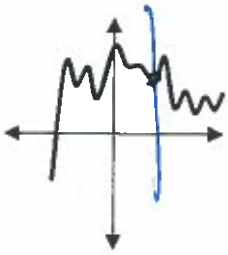
3. Not function



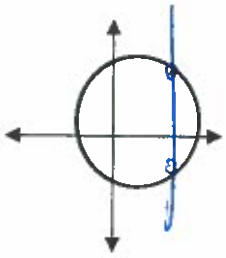
4. not function



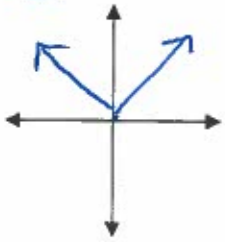
5. function



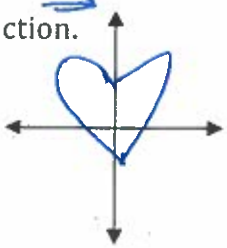
6. Not function



7. Draw a relation that is a function.



8. Draw a relation that is NOT a function.



Directions: State whether or not the following relations are functions. (Hint: You may want to look at a table, mapping, or graph of the points.)

9. {(0, 1), (1, 2), (2, 3), (3, 4)}

function

10. {(1, 1), (2, 1), (3, 1), (4, 1)}

function

11. {(1, 1), (1, 2), (2, 3), (2, 4)}

not function

12. {(-1, 0), (-2, 1), (-3, 2), (-4, 3)}

function

13. {(5, 4), (4, 5), (5, 5), (3, 6)}

not function

14. {(-1, 2), (-2, 3), (-3, 4), (-1, 5)}

not function

Directions: Complete each row of the table below by filling in the missing representations for each relation and stating whether or not the relation is a function.

	Table	Mapping	Graph	A function?
15.	x: -3, -2, 0, 1, 4 / y: 4, 3, 1, 0, -3	x: -3, -2, 0, 1, 4 → 4, 3, 1, 0, -3		yes
16.	x: -4, -1, -1, 2, 3 / y: -2, -1, 5, 0, 3	x: -4, -1, 2, 3 → -2, -1, 0, 3, 5		NO
17.	x: -2, -1, 0, 1, 2 / y: 2, -1, -2, -1, 2	x: -2, -1, 0, 1, 2 → 2, -1, -2 (y)	(-2,2), (2,2), (-1,-1), (1,-1), (0,-2)	yes
18.	x: -4, 0, 1, 0, -4 / y: -1, 0, 1, 2, 3	x: -4, 0, 1 → -1, 0, 1, 2, 3		NO
19.	x: -1, 0, 1, 2, 3 / y: 4, 4, 4, 4, 4	x: -1, 0, 1, 2, 3 → 4		yes
20.	x: 2, 2, 4, 4, 0 / y: -2, 2, -2, 2, -2	x: 2, 4, 0 → -2, 2 (y)		NO

(On Question #20, create your own set of data, represent it in a table, mapping, and graph, and then state whether ~~it is a function~~ or not a function.)