Mathematics 11UC

1.1 – The Characteristics of a Function

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Relation: an expression that relates one variable to another (typically x and y)

ex. $y = 2x + 3$ $x^2 + y^2 = 20$

Function: a relation in which every x-value produces only one y-value.

ex: $y = 3x - 8$ $y = 2x^2 - 4x + 3$

Domain: the set of all possible x-values

Range: the set of all possible y-values

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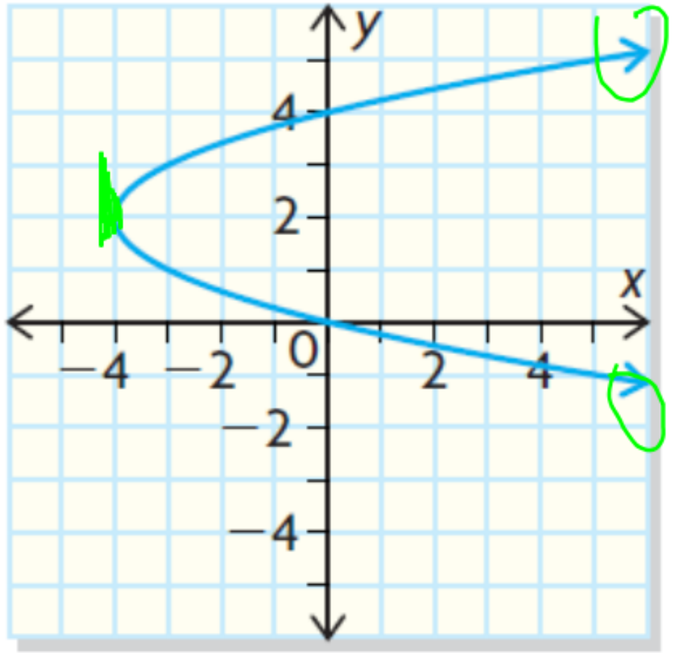
Range: the set of all possible y-values



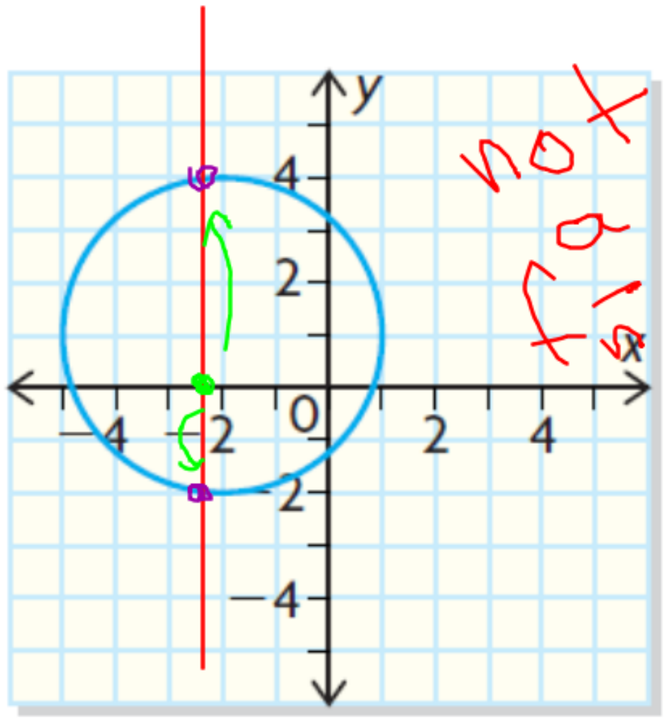
Domain $x \geq -4$

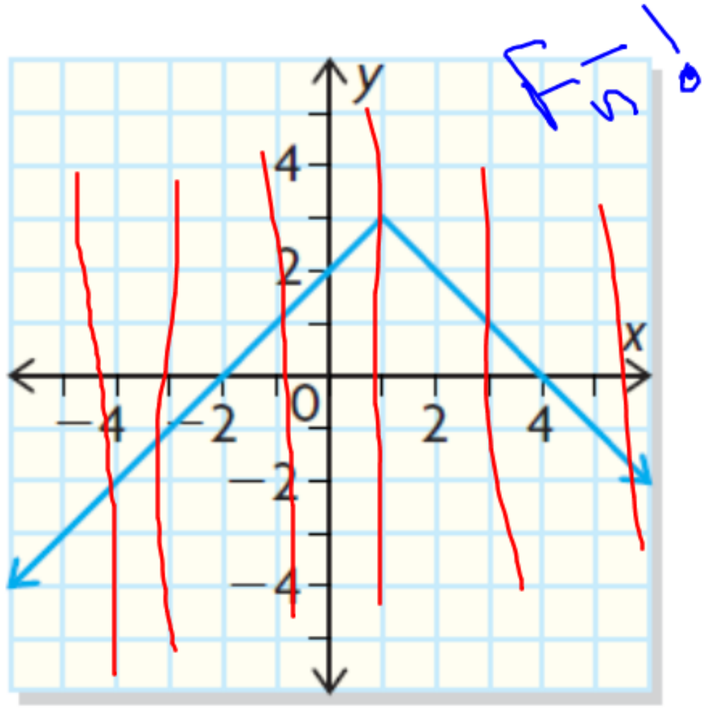
Range all numbers.

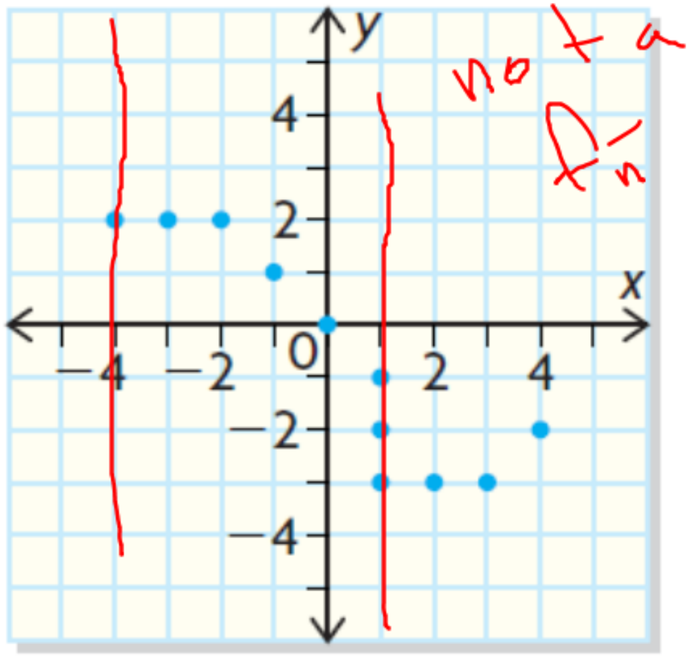
↑

real

Vertical Line Test: VLT, if you can draw a vertical line which passes through the graph more than once, it is not a function.



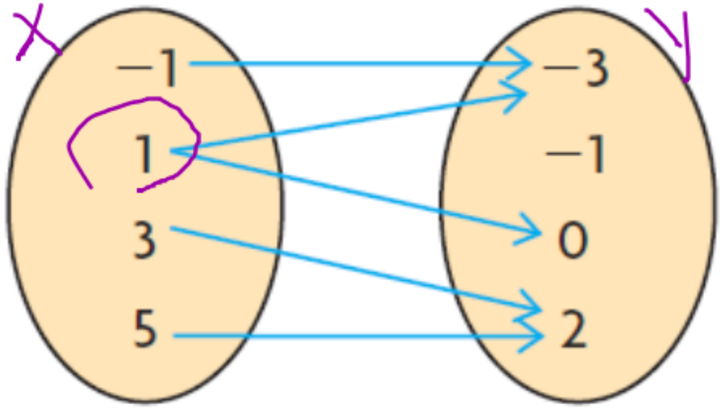




State which relations are functions. Explain.

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

b)



c) $\{(0, 4), (3, 5), (5, -2), (0, 1)\}$

d)