

Which of the following represent a function?

1. (person, social security #)
  2. (state, city)
  3. (city, state)
  4.  $(-3, 7)(4, -4)(0, 11)(-4, 4)$
  5.  $(-6, 9)(1, 8)(-6, 3)(7, 1)$
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1. For every person <sup>x</sup> there is one and only one SSN <sub>y</sub>. FUNCTION

2. For every state <sup>x</sup> there is one and only one city <sub>y</sub>. RELATION

3. For every city <sup>x</sup> there is one and only one state <sub>y</sub>. FUNCTION

4. For every x there is one and only one y. FUNCTION

5. For every x there is one and only one y. RELATION

## Vertical Line Test

Isolates an input ( $x$ ) to check for the number of outputs ( $y$ ). If there is only one output, you have a function. If you have multiple, you have a relation.