Functions versus relations and the vertical-line test

Name: _____ Date: _____

6 questions | 12 marks

1. Decide whether $(0, 1), (1, 1), (2, 1)$ is a function of x. [2 marks]

2. Decide whether $(-2, 0), (-2, 4), (3, 5)$ is a function of x. [2 marks]

3. Is the relation $x = 3$ a function of x? Explain. [2 marks]

4. Is $y = x^2$ a function of x, and is each output produced by only one input? [2 marks]

5. Restrict $x^2 + y^2 = 16$ to give a function with non-positive outputs. [2 marks]

6. A table lists f(0)=1, f(1)=3 and f(2)=5. Does it prove f(x)=2x+1 for every real x? [2 marks]