

# Math 2283 - Introduction to Logic

Quiz #7 - 2017.02.17

Name: \_\_\_\_\_

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Define  $P(x, y)$  to be “ $x$  is the state capital of  $y$ ”. Here  $x$  is a city and  $y$  is a state of the Union. Convert the following logical sentence into a numerically quantified English sentence.

$$\forall y \exists x [P(x, y) \wedge (P(z, y) \rightarrow (x = z))]$$