

Set Theory
Quiz 1

Name: _____

You have 10 minutes to complete this quiz. If you have a question raise your hand and remain seated. In order to receive full credit your answer must be **complete**, **legible** and **correct**. Show your work, and give adequate explanations.

1. Write the axiom of pairing as a formal sentence.

$$(\forall a)(\forall b)(\exists p)(\forall c)((c \in p) \leftrightarrow (c = a) \vee (c = b))$$

2. Write the definition of the power set, $\mathcal{P}(X)$, of a set X .

$$\mathcal{P}(X) = \{y \mid y \subseteq X\}.$$