Pre Quiz

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1

(a), and (b) if "is friends" a reflexive relation.

2

Cannot conclude

3

$$(\exists f \in F, f(CS4269)) \wedge (TY \in F)$$

a) $TY(CS4269)$ cannot conclude
b) $\forall f \in F, f(CS4269)$ cannot conclude

4

$$\forall n \in N, \exists r \in R, r = \sqrt{n}$$

$5.5 \notin N$, cannot conclude $\exists r \in R, r = \sqrt{5.5}$
$5 \in N \implies \exists r \in R, r = \sqrt{5}$

5

A set is a collection of unique elements. like $\mathbb{N}$. The cardinality of a set describes its size. like $|\mathbb{N}| = \aleph_0$

$$\exists \text{ injection } f : A \mapsto B, |A| \leq |B|$$

$$\exists \text{ surjection } f : A \mapsto B, |A| \geq |B|$$

6

A finite set is a set that contains, well finite amount of element. A countable set is either finite or has the same cardinality