

# Set theory quiz

Tuesday, January 21, 2014

8:59 PM

① Insert  $\in$ ,  $\notin$ ,  $\subset$  or  $\not\subset$  in the boxes below.

Ⓐ  $5 \square \{0, 1, 2, 5\}$

Ⓑ  $u \square \{\text{the alphabet}\}$

Ⓒ  $0.5 \square \{\text{whole numbers}\}$

Ⓓ  $10 \square \{0, 1, 2, \dots\}$

Ⓔ  $\{2, 3\} \square \{1, 2, 3, 4\}$

Ⓕ  $\{1, 2\} \square \{2, 3, 4\}$

Ⓖ  $\{\text{March, April}\} \square \{\text{Months of the year}\}$

Ⓗ  $\{3, 27\} \square \{\text{Multiples of 3}\}$

Ⓘ  $\{26, 28\} \square \{\text{Multiples of 4}\}$

② State whether the following sets are finite or infinite.  
If they are finite, write down their cardinality.

Ⓐ  $\{\text{Days of the week}\}$

Ⓑ  $\{\text{Multiples of 10}\}$

Ⓒ  $\{\text{American Presidents}\}$

③ Write down all subsets of the set  $\{1, 2, 3\}$