PRACTICE 04

PROBLEM 1 *Set definition*

Let $A = \{1, 2, 3, 4\}$, $B = \{2x \mid (x \in \mathbb{N}) \wedge x < 5\}$, $C = \mathcal{P}(\{2, 3\})$. Show the full set of members in each of the following sets using curly-brace notation (not set-builder or operator-defined notation):

$B =$ _____

$C =$ _____

$|C| =$ _____

$A \cup B =$ _____

$A \cap B =$ _____

$A \setminus B =$ _____

$A \cup C =$ _____

$A \cap C =$ _____

$\{x \mid x \in A \wedge x \in B\} =$ _____

$\{x \mid x \in A \vee x \in B\} =$ _____

$\{x \mid x \in A \wedge 2x \in A\} =$ _____

$\left\{x \mid (x \in B) \wedge (\forall y \in A . x > y)\right\} =$ _____

$\left\{X \mid (X \in C) \wedge (\exists y \in X . y \in B)\right\} =$ _____