1. Suppose $A = \{0, \emptyset\}$ and $B = \{1, 2\}$. Write $A \times B$ by listing its elements between braces.

$$A \times B = \{(0, 1), (0, 2), (\emptyset, 1), (\emptyset, 2)\}$$

2. Suppose $A = \{a, b, c, d\}$, and let $B = \{X \subseteq A : |X| = 0\}$.

Write out B by listing its elements between braces.

$$B = \{\emptyset\}$$

3. If $A = \{a, b, c\}$, then $\mathscr{P}(A) =$

$$\mathscr{P}(A) = \{\emptyset, \{a\}, \{b\}, \{c\}, \{a, b\}, \{a, c\}, \{a, b, c\}\}$$

1. Suppose $A = \{a, b, c\}$ and $B = \{0, 1\}$. Write $A \times B$ by listing its elements between braces

$$A \times B = \{(a, 0), (b, 0), (c, 0), (a, 1), (b, 1), (c, 1)\}$$

2. Suppose $A = \{a, b, c, d\}$, and let $B = \{X \subseteq A : |X| = 2\}$.

Write out B by listing its elements between braces.

$$B = \{\{a, b\}, \{a, c\}, \{a, d\}, \{b, c\}, \{b, d\}, \{c, d\}\}$$

3. If $A = \{0, \emptyset\}$, then $\mathscr{P}(A) =$

$$\mathscr{P}(A) = \{\emptyset, \{0\}, \{\emptyset\}, \{0, \emptyset\}\}$$

1. Suppose $A = \{2, 3\}$ and $B = \{0, \emptyset\}$. Write $A \times B$ by listing its elements between braces.

$$A \times B = \{(2, 0), (2, \phi), (3, 0), (3, \phi)\}$$

2. Suppose $A = \{a, b, c, d\}$, and let $B = \{X \subseteq A : |X| \leq 1\}$.

Write out B by listing its elements between braces.

$$B = \{\phi, \{a\}, \{b\}, \{c\}, \{d\}\}$$

3. If $B = \{2, 4, 6\}$, then $\mathscr{P}(B) =$

$$\mathscr{P}(B) = \{\phi, \{2\}, \{4\}, \{6\}, \{2, 4\}, \{2, 6\}, \{4, 6\}, \{2, 4, 6\}\}$$

1. Suppose $A = \{1, 2\}$ and $B = \{a, b, c\}$. Write $A \times B$ by listing its elements between braces.

$$A \times B = \{(1, a), (1, b), (1, c), (2, a), (2, b), (2, c)\}$$

2. Suppose $A = \{a, b, c, d\}$, and let $B = \{X \subseteq A : |X| = 3\}$.

Write out B by listing its elements between braces.

$$B = \{\{a, b, c\}, \{a, b, d\}, \{a, c, d\}, \{b, c, d\}\}$$

3. If $A = \{\mathbb{Z}, \mathbb{N}\}$, then $\mathscr{P}(A) =$

$$\mathscr{P}(A) = \{\phi, \{\mathbb{Z}\}, \{\mathbb{N}\}, \{\mathbb{Z}, \mathbb{N}\}\}$$