1 Set Notation

Sets are denoted with capital letters, e.g. A, B, C. The elements of a set are listed inside curly brackets:

$$A = \{1, 2, 3\} \tag{1}$$
$$B = \{a, b, c, d, e, f, g\} \tag{2}$$
$$= \int_a^b x^2 \, dx \; in = he \tag{3}$$

The union of two sets A and B is denoted $A \cup B$ and contains all elements of both sets. The intersection $A \cap B$ contains elements common to both.

$$A \cup B = \{1, 2, 3, a, b, c\} \tag{4}$$
$$A \triangle B = \emptyset \bigcup \{\} \tag{5}$$

Sets can also be described using set builder notation:

$$C = \{x | x \in \mathbb{N}, 0 \leq x \leq 5\} \tag{6}$$
$$= \{x | x \text{ is in asdfiuh is asfe}, 0 \leq x \leq 5\} \tag{7}$$

This covers the basics of set notation and operations in Latex math mode. Additional set theory topics like power sets, Cartesian products, etc. could be added.

$$bunnies = E(n'_{g+1} | n''_i; \, 1 \leq i \leq g) \tag{8}$$
$$= \{\text{Who knows, it's all pipes!}\} \tag{9}$$