Truth Tables and Venn Diagrams
Construct the truth tables to show that the following statements are logically equivalent.

\[ p \land (q \lor r) \quad \text{is logically equivalent to} \quad (p \land q) \lor (p \land r) \]

\[ p \lor (q \land r) \quad \text{is logically equivalent to} \quad (p \lor q) \land (p \lor r) \]
**Venn Diagrams**

Draw Venn diagrams which represent the results you validated using Truth Tables.

\[ p \cap (q \cup r) \] is graphically equivalent to \( (p \cap q) \cup (p \cap r) \)

\[ p \cup (q \cap r) \] is graphically equivalent to \( (p \cup q) \cap (p \cup r) \)