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

$$p \wedge (q \vee r) \qquad \text{is logically equivalent to } (p \wedge q) \vee (p \wedge r)$$

$$p \vee (q \wedge r) \qquad \text{is logically equivalent to } (p \vee q) \wedge (p \vee r)$$

Venn Diagrams

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

$$p \cap (q \cup r) \qquad \text{is graphically equivalent to } (p \cap q) \cup (p \cap r)$$

$$p \cup (q \cap r) \qquad \text{is graphically equivalent to } (p \cup q) \cap (p \cup r)$$