For each of the following, use truth tables or Venn diagrams as you prefer[1]

3. Show that $P \implies Q$ is the same as $\neg Q \implies \neg P$.

4. Show that $P \iff Q$ is the same as $(P \implies Q) \wedge (Q \implies P)$.

5. Show that $P \iff Q$ is the same as $(P \implies Q) \wedge (\neg P \implies \neg Q)$.

6. Translate each of the above statements (esp. the last two) into words.

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[1]Although I'd probably use truth tables here