1. Show that a topological space X is Hausdorff if and only if every net in X converges to at most one point.

2. Show that if X and Y are topological spaces, then a net $\langle (x_\alpha, y_\alpha) \rangle_{\alpha \in A}$ in $X \times Y$ converges to (x, y) if and only if $x_\alpha \to x$ and $y_\alpha \to y$.

3. In a previous homework, you gave a proof of exercise 26.8. Give a new solution to this problem using nets.

4. Munkres 26.13a (Use nets!)

5. Munkres 30.3

6. Munkres 31.8 (only show that X/G is Hausdorff or normal if X is).