Point Set Topology

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Problem 1

$$d(F(x), F(x_0)) = d((x, f(x)), (x_0, f(x_0))) \quad = \sqrt{(x - x_0)^2 + (f(x) - f(x_0))^2} < \sqrt{\delta^2 + \left(\frac{\epsilon}{\sqrt{2}}\right)^2} \leq \sqrt{\delta_1^2 + \frac{\epsilon^2}{2}}$$

Problem 2

Problem 3

Problem 4