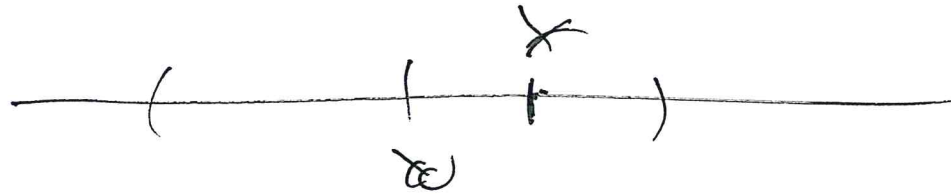


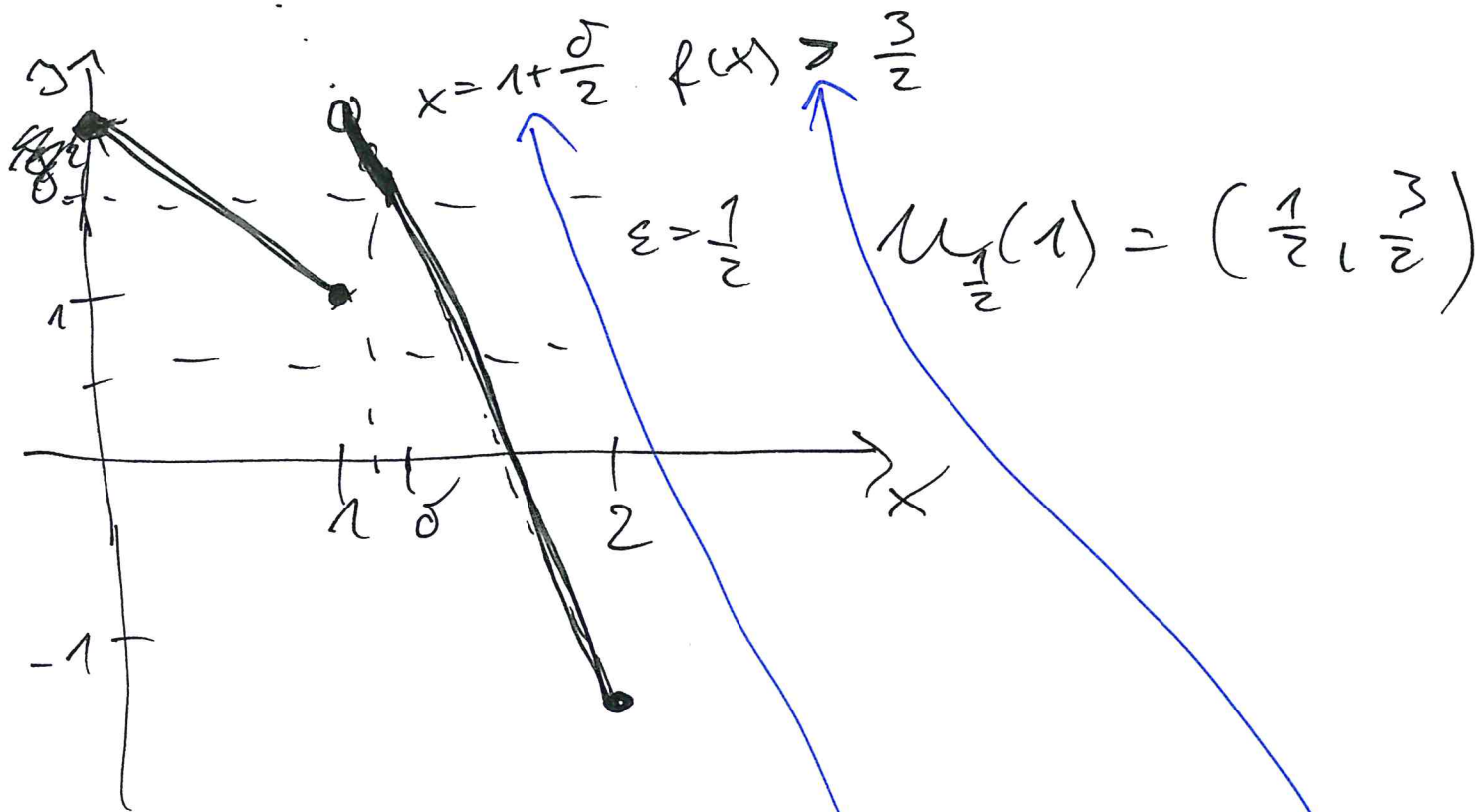
$$(\forall \varepsilon > 0) (\exists \delta > 0) (\forall x \in \mathcal{U}_\delta(x_0)) (f(x) \in \mathcal{U}_\varepsilon(f(x_0)))$$

$$(\exists \varepsilon > 0) (\forall \delta > 0) (\exists x \in \mathcal{U}_\delta(x_0)) (f(x) \notin \mathcal{U}_\varepsilon(f(x_0)))$$

$$x = x_0 + \frac{\delta}{2} \quad : \quad x \in (x_0 - \delta, x_0 + \delta)$$



$$f(x) \notin \mathcal{U}_\varepsilon(f(x_0))$$



$$(\forall \varepsilon > 0) (\exists \delta > 0) (\forall x \in U_{\delta}(1)) (f(x) \in U_{\varepsilon}(f(1)))$$

$$(\exists \varepsilon > 0) (\forall \delta > 0) (\exists x \in U_{\delta}(1)) (f(x) \notin U_{\varepsilon}(1))$$

$\varepsilon = \frac{1}{2}$