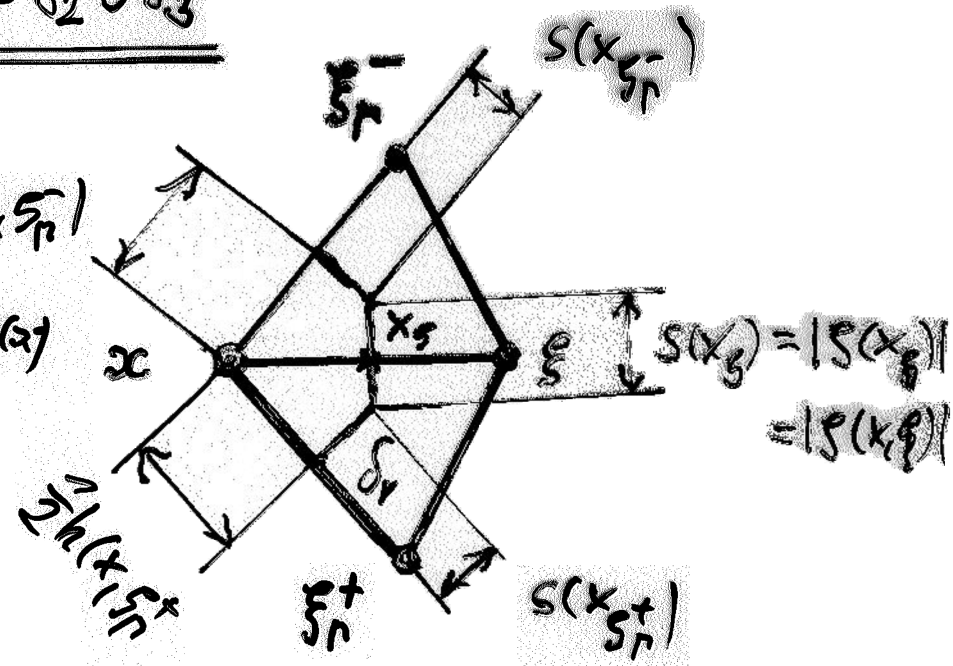
b) $x \in \gamma_n := \gamma_2 \cup \gamma_3$

z. B.

$\partial \mathcal{X}_n = \partial \mathcal{X}_3 = \partial \mathcal{X}_3(x)$



$$h(x) = \frac{1}{2}\left(h(x,\xi_n^-) + h(x,\xi_n^+)\right)$$

④ $$\int_{\partial \mathcal{X}_3(x)} \varkappa u \, ds \approx \bar{\varkappa}(x)\, u(x) \underbrace{\left[\frac{1}{2}\left(h(x,\xi_n^-) + h(x,\xi_n^+)\right)\right]}_{=:\, h(x)}$$

mit $\bar{\varkappa}(x) = \varkappa(x)$ falls $\varkappa \in C^1(\Gamma_3)$

⑤ $$\int_{\partial \mathcal{X}_n(x)} g \, ds \approx \bar{g}(x)\, h(x) \text{ mit } \bar{g}(x) = g(x) \text{ falls } g \in C^1(\Gamma_3)$$

<u>**Resultat:**</u> $u \mapsto v = u_h$, $\ell \mapsto \ell_h$, $x \in \gamma_n(\gamma_3)$

$(6)_\ell$ $$-\frac{1}{h(x)} \sum_{\xi \in S'(x)} \bar{a}(x_\xi) \frac{v(\xi) - v(x)}{h(x,\xi)} S(x_\xi) + \underbrace{\frac{H(x)}{h(x)}\bar{c}(x) v(x)}_{0(h)} + \bar{\varkappa}(x) v(x) = \underbrace{\frac{H(x)}{h(x)}\bar{f}(x)}_{0(h)} + \bar{g}(x)$$

kann weggelassen werden

$$\underbrace{-\frac{1}{h(x)} \sum_{\xi \in S'(x)} \bar{a}(x_\xi) \frac{v(\xi) - v(x)}{h(x,\xi)} S(x_\xi) + \bar{\varkappa}(x) v(x)}_{=:\, \ell_h v(x)} = \underbrace{\bar{g}(x)}_{=:\, g_h(x)}$$