



$$P_n(x | 0,5x + 2)$$

$$\overrightarrow{MP_n} = \begin{pmatrix} x - 3 \\ 0,5x + 2 \end{pmatrix}$$

$$\overline{MP_n} = \sqrt{(x - 3)^2 + (0,5x + 2)^2} \text{ LE}$$

$$\overline{MP_n} = \sqrt{x^2 - 6x + 9 + 0,25x^2 + 2x + 4} \text{ LE}$$

$$\overline{MP_n} = \sqrt{1,25x^2 - 4x + 13} \text{ LE}$$

$$x_3 = 4 \Rightarrow \overline{MP_3} = \sqrt{17} \text{ LE}$$

$$u_3 = 2 \cdot \sqrt{17} \cdot \pi \text{ LE} = \underline{25,91 \text{ LE}}$$

$$A_3 = \sqrt{17}^2 \cdot \pi \text{ FE} = \underline{53,41 \text{ FE}}$$

Ich betrachte dazu

$$\begin{aligned}
 T(x) &= 1,25x^2 - 4x + 13 \\
 &= 1,25 \cdot [x^2 - 3,2x] + 13 \\
 &= 1,25 \cdot [(x^2 - 3,2x + 1,6^2) - 1,6^2] + 13 \\
 &= 1,25 \cdot [(x - 1,6)^2 - 2,56] + 13 \\
 &= 1,25 \cdot (x - 1,6)^2 - 2,56] + 13 \\
 &= 1,25 \cdot (x - 1,6)^2 + 9,8
 \end{aligned}$$

$$\Rightarrow A_{\min} = 9,8\pi \text{ FE für } x = 1,6$$

$$A(x) = \overline{MP_n}^2 \cdot \pi$$

$$A(x) = \sqrt{1,25x^2 - 4x + 13}^2 \cdot \pi \text{ FE}$$

$$A(x) = \pi \cdot (1,25x^2 - 4x + 13) \text{ FE}$$

$$r_5 = \sqrt{13} \text{ LE}$$

$$\Rightarrow \sqrt{1,25x^2 - 4x + 13} = \sqrt{13} \quad |^2$$

$$\Rightarrow 1,25x^2 - 4x + 13 = 13$$

$$\Leftrightarrow 1,25x^2 - 4x = 0$$

$$x_{1/2} = \frac{4 \pm \sqrt{16}}{2,5}$$

$$x = 3,2 \quad \vee \quad x = 0$$

$$\mathbb{L} = \{0; 3,2\}$$

$$\Rightarrow P_5(0|2) \quad Q_5(3,2|3,6)$$

$$\left| \begin{array}{l} a = 1,25 \\ b = -4 \\ c = 0 \end{array} \right.$$

$$D = (-4)^2 - 4 \cdot 1,25 \cdot 0$$

$$D = 16$$