

Lösungshinweise

R

1.1 $f(x) = -0,25x^3 + 1,5x^2 - 2x$

1.2 $x_{N1} = 0$ $x_{N2} = 2$ $x_{N3} = 4$

$P_{Max}(3,15;0,77)$ $P_{Min}(0,85;-0,77)$ $P_W(2;0)$

$\lim_{x \rightarrow -\infty} f(x) = \infty$ $\lim_{x \rightarrow +\infty} f(x) = -\infty$

1.5 $y = f(x) = x - 2$

1.6 $A = 1FE$

2.1 $P_1(3;3,373)$ $P_2(1;0,625)$

2.2.1 **BA - AB**

2.2.2 $X = \begin{pmatrix} -7 & -7 \\ 0 & 7 \end{pmatrix}$

2.3 $x_1 = -1,5$ $x_2 = 4,5$

3.1 $P_{x1}(-2; 0)$ $P_{x2}(0; 0)$ $P_y(0; 0)$

3.2 $P_{Min}(-\sqrt{2}; -3,41)$ $P_{Max}(\sqrt{2}; 1,17)$

3.3 $P_{W1}(-0,73; -1,93)$ $P_{W2}(2,73; 0,84)$

3.4 $x_1 \approx 0,62$ $x_2 \approx -1,62$

4.3 $x_{0,5} = 3$ $\bar{x} = 4$

4.4 $\bar{x}_w = 3,07$ $s = 2,17$

4.5 93%

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4.1 M (4; 4; 0) N (2; 8; 3) P (0; 4; 6) Q (2; 0; 3)

4.3 $\alpha \approx 84,06^\circ$

4.4 $A \approx 28,84FE$

4.5 z.B. $\vec{x} = \begin{pmatrix} 2 \\ 8 \\ 3 \end{pmatrix} + r \cdot \begin{pmatrix} 2 \\ -4 \\ -3 \end{pmatrix}$ R (6; 0; -3)

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4.1 $K_6 = 90\,076,86$ EUR $S_6 = 109\,923,14$ EUR $R_E = 17\,122,31$
EUR

$R = 1\,409,42$ EUR

4.2 $R = 7\,635,17$ EUR