

Potenzfunktionen:

- Nullstellenberechnung -

a) $f(x) = 2x^4 - 162$

$$\begin{array}{l} 0 = 2x^4 - 162 \quad | +162 \\ 162 = 2 \cdot x^4 \\ 81 = x^4 \end{array} \quad \begin{array}{l} | \div 2 \\ | \sqrt[4]{} \end{array}$$

$$3 = x_1$$

$$-3 = x_2$$

b) $f(x) = -4x^3 + 18$

$$\begin{array}{l} 0 = -4x^3 + 18 \quad | -18 \\ -18 = -4x^3 \\ 4,5 = x^3 \end{array} \quad \begin{array}{l} | \div (-4) \\ | \sqrt[3]{} \end{array}$$

$$1,65 \approx x$$

c) $f(x) = -0,5x^6 - 22$

$$\begin{array}{l} 0 = -0,5x^6 - 22 \quad | +22 \\ 22 = -0,5x^6 \\ -44 = x^6 \end{array} \quad \begin{array}{l} | \div (-0,5) \\ | \sqrt[6]{} \end{array}$$

$$\sqrt[6]{-44} = x$$



n.d.

$$d) f(x) = 3x^5 + 99$$

$$0 = 3 \cdot x^5 + 99 \quad | -99$$

$$-99 = 3 \cdot x^5$$

$$-33 = x^5$$

$$\sqrt[5]{-33} = x$$

$$-2,01 \approx x$$

$$\begin{array}{r} | -99 \\ | : 3 \\ | \sqrt[5]{ } \end{array}$$

$$e) f(x) = 2x^4 - 0,3x^3 - 4$$

keine Potenzfunktion