

S 48 Nr 1

$$a) (x-2)(x+5) = 0 \Rightarrow (x-2) = 0 \vee (x+5) = 0 \Rightarrow \underline{\underline{x_1 = 2}} \vee \underline{\underline{x_2 = -5}}$$

$$b) x^3 + 2x = 0 \Rightarrow x \cdot (x^2 + 2) = 0 \Rightarrow \underline{\underline{x_1 = 0}} \vee x^2 + 2 = 0 \text{ keine Lösung}$$

$x^2 = -2 \leftarrow$

$$c) (x+1)^2 \cdot (x-3)^2 = 0 \Rightarrow (x+1) = 0 \vee (x-3) = 0$$

$\underline{\underline{x_1 = -1}} \vee \underline{\underline{x_2 = 3}}$

$$d) (x^2 + x)(x - 10) = 0 \Rightarrow x^2 + x = 0 \vee x - 10 = 0 \Rightarrow \underline{\underline{x_1 = 10}}$$

$x(x+1) = 0$   
 $\underline{\underline{x_2 = 0}} \vee \underline{\underline{x_3 = -1}}$

$$e) (x^2 - 6x + 9)(x^2 - 4) = 0 \Rightarrow x^2 - 6x + 9 = 0 \vee (x^2 - 4) = 0 \Rightarrow \underline{\underline{x_{1,2} = \pm 2}}$$

$x_{3,4} = 3 \pm \sqrt{9-9}$   
 $\underline{\underline{x_3 = 3}}$

$$f) (x^3 - 4x^2 + 4x) \cdot (2x - 3) = 0 \Rightarrow x^3 - 4x^2 + 4x = 0 \vee 2x - 3 = 0 \Rightarrow \underline{\underline{x_1 = \frac{3}{2}}}$$

$x(x^2 - 4x + 4) = 0 \Rightarrow \underline{\underline{x_2 = 0}}$   
 $x^2 - 4x + 4 = 0$   
 $x_{3,4} = 2 \pm \sqrt{4-4}$   
 $\underline{\underline{x_3 = 2}}$