

5)8) $\frac{\omega}{2}(\sqrt{3}\omega - 7) = -\sqrt{3} \Leftrightarrow \frac{\sqrt{3}}{2} \cdot \omega^2 - \frac{7}{2} \cdot \omega = -\sqrt{3} \Leftrightarrow$
 5.97

$$\frac{\sqrt{3}}{2} \cdot \omega^2 - \frac{7}{2} \cdot \omega + \sqrt{3} = 0 \Leftrightarrow \sqrt{3} \cdot \omega^2 - 7\omega + 2\sqrt{3} = 0 (*)$$

$$\begin{array}{l|l} a = \sqrt{3} & \Delta = b^2 - 4ac = \\ b = -7 & (-7)^2 - 4 \cdot \sqrt{3} \cdot 2\sqrt{3} = \\ c = 2\sqrt{3} & 49 - 8 \cdot \sqrt{3}^2 = \\ & 49 - 24 = 25 > 0 \end{array}$$

$$\omega_{1,2} = \frac{-b \pm \sqrt{\Delta}}{2a} = \frac{-(-7) \pm \sqrt{25}}{2 \cdot \sqrt{3}} = \frac{7 \pm 5}{2\sqrt{3}} =$$

$$= \begin{array}{l} + \rightarrow \frac{12}{2\sqrt{3}} = \frac{6}{\sqrt{3}} = \frac{6\sqrt{3}}{\sqrt{3}^2} = 2\sqrt{3} \\ - \rightarrow \frac{2}{2\sqrt{3}} = \frac{1}{\sqrt{3}} = \frac{\sqrt{3}}{\sqrt{3}^2} = \frac{\sqrt{3}}{3} \end{array}$$

8'200000
 (*) $\xrightarrow{\cdot \sqrt{3}}$

$$\sqrt{3} \cdot \omega^2 - 7 \cdot \sqrt{3} \cdot \omega + 2 \cdot \sqrt{3} = 0$$

$$3\omega^2 - 7\sqrt{3}\omega + 6 = 0 \quad \left| \begin{array}{l} a = 3 \\ b = -7\sqrt{3} \\ c = 6 \end{array} \right|$$

$$\Delta = b^2 - 4ac = (-7\sqrt{3})^2 - 4 \cdot 3 \cdot 6 =$$

$$49 \cdot \sqrt{3}^2 - 72 = 147 - 72 = 75 > 0$$

$$\omega_{1,2} = \frac{-b \pm \sqrt{\Delta}}{2a} = \frac{-(-7\sqrt{3}) \pm \sqrt{75}}{2 \cdot 3} = \frac{7\sqrt{3} \pm \sqrt{75}}{6}$$

$$= \frac{7\sqrt{3} \pm \sqrt{25 \cdot 3}}{6} = \frac{7\sqrt{3} \pm 5\sqrt{3}}{6}$$

$$= \begin{array}{l} + \rightarrow \frac{12\sqrt{3}}{6} = 2\sqrt{3} \\ - \rightarrow \frac{2\sqrt{3}}{6} = \frac{\sqrt{3}}{3} \end{array}$$

$$\sqrt{a \cdot b} = \sqrt{a} \cdot \sqrt{b}$$

$$(2x-3)^2 - 4 \cdot (x-1)(x+1) = x^2 \quad (==)$$

$$4x^2 - 12x + 9 - 4 \cdot (x^2 - 1) = x^2 \quad (==)$$

$$\cancel{4x^2} - 12x + 9 - \cancel{4x^2} + 4 = x^2 \quad (==)$$

$$-12x + 13 = x^2 \quad (==)$$

$$-x^2 - 12x + 13 = 0$$

$$a = -1 \quad \Delta = b^2 - 4ac =$$

$$b = -12 \quad (-12)^2 - 4 \cdot (-1) \cdot 13 =$$

$$c = 13 \quad 144 + 52 = \underline{\underline{196 > 0}}$$

$$x_{1,2} = \frac{-b \pm \sqrt{\Delta}}{2a} = \frac{-(-12) \pm \sqrt{196}}{2 \cdot (-1)} =$$

$$\frac{12 \pm 14}{-2} = \begin{cases} \frac{26}{-2} = -13 \\ \frac{-2}{-2} = 1 \end{cases}$$

$$(x-2)(2x-3) - (x-3)^2 - 2x(x-4) = 7 \quad (\Rightarrow)$$

$$\cancel{2x^2} - 3x - 4x + 6 - (x^2 - 6x + 9) - \cancel{2x^2} + 8x = 7 \quad (\Rightarrow)$$

$$-7x + 6 - x^2 + 6x - 9 + 8x - 7 = 0 \quad (\Rightarrow)$$

$$-x^2 + 7x - 10 = 0 \quad (\stackrel{(-1)}{=} \Rightarrow)$$

$$x^2 - 7x + 10 = 0$$

$$\begin{array}{l|l} a=1 & \Delta = b^2 - 4ab = \\ b=-7 & (-7)^2 - 4 \cdot 1 \cdot 10 = \\ c=10 & 49 - 40 = \underline{9 > 0} \end{array}$$

$$X_{1,2} = -\frac{b \pm \sqrt{\Delta}}{2a} = \frac{-(-7) \pm \sqrt{9}}{2 \cdot 1} = \frac{7 \pm 3}{2} \begin{array}{l} \xrightarrow{+} \frac{10}{2} = \textcircled{5} \\ \xrightarrow{-} \frac{4}{2} = \textcircled{2} \end{array}$$

$$-2w^2 + w + 6 \quad \text{Nullformeln einsetzen;}$$

$$\text{Lösung} \quad -2w^2 + w + 6 = 0$$

$$\begin{array}{l|l} a = -2 & \Delta = b^2 - 4ac = 1 - 4 \cdot (-2) \cdot 6 = \\ b = 1 & 1 + 48 = \underline{49} > 0 \\ c = +6 & \end{array}$$

$$w_{1,2} = \frac{-b \pm \sqrt{\Delta}}{2a} = \frac{-1 \pm \sqrt{49}}{2 \cdot (-2)} = \frac{-1 \pm 7}{-4}$$

$\begin{array}{l} + \rightarrow \frac{6}{-4} = \left(-\frac{3}{2}\right) \\ - \rightarrow \frac{-8}{-4} = (2) \end{array}$

Apa

$$-2w^2 + w + 6 = -2 \cdot \left(w - \left(-\frac{3}{2}\right)\right) \cdot (w - 2) =$$

$$-2 \left(w + \frac{3}{2}\right) \cdot (w - 2) =$$

$$\boxed{- (2w + 3) \cdot (w - 2)} = (2w + 3) \cdot (2 - w)$$

$$-25t^2 + 10t - 1, \text{ παραγοντώντας;}$$

$$\text{Λύνω } -25t^2 + 10t - 1 = 0$$

$$\begin{array}{l|l} a = -25 & \Delta = b^2 - 4ac = \\ b = 10 & 100 - 4 \cdot (-25) \cdot (-1) = \\ c = -1 & 100 - 100 = 0 \end{array}$$

Ενώ 1 συναντη πρ. πρ. :

$$t_0 = \frac{-b}{2a} = \frac{-10}{2 \cdot (-25)} = \frac{-10}{-50} = \frac{1}{5} \Rightarrow t_0 = 1/5$$

$$\text{ή πα } -25t^2 + 10t - 1 = -25 \cdot \left(t - \frac{1}{5}\right)^2$$

$$\begin{aligned} \text{ε' υπόρσ): } -25t^2 + 10t - 1 &= \\ -\left(25t^2 - 10t + 1\right) &= \\ -\left[(5t)^2 - 2 \cdot 5t \cdot 1 + 1^2\right] &= \end{aligned}$$

$$-(5t-1)^2$$

$$\begin{aligned} -25 \cdot \left(t - \frac{1}{5}\right)^2 &= \\ -5^2 \cdot \left(t - \frac{1}{5}\right)^2 &= \\ -\left[5 \cdot \left(t - \frac{1}{5}\right)\right]^2 &= \end{aligned}$$

$$-(5t-1)^2$$

$$a^v \cdot b^v = (a \cdot b)^v$$

$$9x^2 - (5x - 1)^2 = 2x \Rightarrow$$

$$9x^2 - (25x^2 - 10x + 1) = 2x \Rightarrow$$

$$9x^2 - 25x^2 + 10x - 1 = 2x \Rightarrow$$

$$-16x^2 + 10x - 1 - 2x = 0 \Rightarrow$$

$$\underline{-16x^2 + 8x - 1 = 0}$$

$a = -16$		$\Delta = b^2 - 4 \cdot a \cdot c = 8^2 - 4 \cdot (-16) \cdot (-1) =$
$b = 8$		
$c = -1$		
		$64 - 64 = 0$

Exw 1 Σιναν Πρ. Ρφε :

$$X_0 = \frac{-b}{2a} = \frac{-8}{2 \cdot (-16)} = \frac{-8}{-32} = \frac{1}{4} \Rightarrow$$

$$X_0 = 1/4$$

$$2) \gamma) \frac{2(w-1)}{3} - \frac{w+1}{2} = \frac{w-5}{6} \quad (\xRightarrow{6})$$

or 88

$$\cancel{6} \cdot \frac{2(w-1)}{\cancel{3}} - \cancel{6} \cdot \frac{w+1}{\cancel{2}} = \cancel{6} \cdot \frac{w-5}{\cancel{6}} \quad (=)$$

$$4(w-1) - 3(w+1) = w-5 \quad (=)$$

$$4w-4-3w-3=w-5 \quad (=) \quad w-7=w-5 \quad (=)$$

$$w-w=-5+7 \quad (=)$$

$$0=2$$

Asıvan

Kapı açan