S 121 Nr 5

$\sin(30°) = \cos\left(\frac{7\pi}{3}\right)$

$\sin\left(\frac{\pi}{4}\right) = \cos\left(-\frac{\pi}{4}\right) = \cos\left(\frac{\pi}{4}\right)$

$\cos(3\pi)$

$\cos(0) = \sin(90°)$

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S 121 Nr. 6

$f(x) = \sin(x) \qquad [-\pi; 3\pi]$

Nullstellen:

$f(x) = \sin(x) = 0 \Rightarrow x_1 = -\pi;\ x_2 = 0;\ x_3 = \pi,\ x_4 = 2\pi;\ x_5 = 3\pi$

$N_1(-\pi|0)\ \ N_2(0|0)\ \ N_3(\pi|0)\ \ N_4(2\pi|0)\ \ N_5(3\pi|0)$

Extrempunkte

$T_1\left(-\frac{\pi}{2}|-1\right),\ H_1\left(\frac{\pi}{2}|1\right);\ T_2\left(\frac{3}{2}\pi|-1\right);\ H_2\left(\frac{5}{2}\pi|1\right)$

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$g(x) = \cos(x) \qquad [-\pi; 3\pi]$

Nullstellen:

$g(x) = \cos(x) = 0 \Rightarrow x_1 = -\frac{\pi}{2};\ x_2 = \frac{\pi}{2};\ x_3 = \frac{3}{2}\pi,\ x_4 = \frac{5}{2}\pi$

$N_1\left(-\frac{\pi}{2}|0\right);\ N_2\left(\frac{\pi}{2}|0\right);\ N_3\left(\frac{3}{2}\pi|0\right),\ N_4\left(\frac{5}{2}\pi|0\right)$

Extrempunkt:

$T_1(-\pi|-1);\ H_1(0|1),\ T_2(\pi|-1),\ H_2(2\pi|1),\ T(3\pi|-1)$

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S 121 Nr. 7

a) $\sin\left(\frac{\pi}{2}-x\right) = \sin\left(\frac{\pi}{2}+x\right)$ grün

$\sin(\pi-x) = -\sin(\pi+x)$ gelb

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b) $\cos(x) = \cos(-x)$

$\cos\left(\frac{\pi}{2}-x\right) = -\cos\left(\frac{\pi}{2}+x\right)$