LS-Kursstufe Seite 137

Nr. 5) a) $f(x) = -2\sin(3x) + 10$

$f'(x) = -2 \cdot \cos(3x) \cdot 3 = \underline{\underline{-6 \cdot \cos(3x)}}$

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b) $F(x) = -\cos(3(x-2)) = -\cos(3x-6)$

$F'(x) = -(-\sin(3x-6)) \cdot 3 = \underline{\underline{3\sin(3(x-2))}}$

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c) $F(x) = 0{,}2\sin(5(x+1)) - 4$

$F'(x) = 0{,}2\cos(5(x+1)) \cdot 5 = \underline{\underline{1 \cdot \cos(5(x+1))}}$

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d) $F(x) = 2 + \cos\left(\frac{x}{3}\right)$

$F'(x) = -\sin\left(\frac{x}{3}\right) \cdot \frac{1}{3} = \underline{\underline{-\frac{1}{3}\sin\left(\frac{x}{3}\right)}}$

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e) $F(x) = 1 - \cos(2(x-2))$

$F'(x) = -(-\sin(2(x-2)) \cdot 2 = \underline{\underline{2\sin(2(x-2))}}$

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f) $F(x) = x + \sin(2x) - 4$

$F'(x) = 1 + \cos(2x) \cdot 2 = \underline{\underline{1 + 2 \cdot \cos(2x)}}$

Nr. 8) a) $p = 2$; $A = 1$; $b = \frac{2\pi}{2} = \pi \Rightarrow \underline{\underline{F(x) = 1 \cdot \sin(\pi \cdot x)}}$

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b) $p = 4$; $A = 1$; $b = \frac{2\pi}{4} = \frac{1}{2}\pi$; $\Rightarrow \underline{\underline{F(x) = 1 \cdot \sin\left(\frac{1}{2}\pi \cdot x\right) + 1}}$

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c) $2p = 5 \Rightarrow p = 2{,}5 \Rightarrow b = \frac{2\pi}{2{,}5} = \frac{4}{5}\pi \Rightarrow \underline{\underline{F(x) = 1 \cdot \sin\left(\frac{4}{5}\pi \cdot x\right) - 0{,}5}}$

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d) $p = 2$; $A = 3$; $b = \frac{2\pi}{2} = \pi \Rightarrow \underline{\underline{F(x) = -3\sin(\pi \cdot x)}}$

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e) $p = 2$; $2A = 5 \Rightarrow A = 2{,}5 \Rightarrow \underline{\underline{F(x) = 2{,}5 \cdot \sin(\pi \cdot x) + 0{,}5}}$

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f) $\frac{1}{2}p = 5 \Rightarrow p = 10$; $b = \frac{2\pi}{10} = \frac{\pi}{5}$; $A = 0{,}5 \Rightarrow \underline{\underline{F(x) = 0{,}5 \cdot \sin\left(\frac{\pi}{5} \cdot x\right) + 0{,}5}}$

O. Fell