Lösung A1

$f_n(x)$	$f_n'(x)$	$f_n''(x)$
$f_1(x) = sin(x)$	$f_1'(x) = cos(x)$	$f_1''(x) = -sin(x)$
$f_2(x) = 2sin(x)$	$f_2'(x) = 2\,cos(x)$	$f_2''(x) = -2sin(x)$
$f_3(x) = asin(x)$	$f_3'(x) = acos(x)$	$f_3''^{(x)} = -asin(x)$
$f_4(x) = cos(x)$	$f_4'(x) = -sin(x)$	$f_4''(x) = -cos(x)$
$f_5(x) = 3cos(x)$	$f_5'(x) = -3sin(x)$	$f_5''(x) = -3cos(x)$
$f_6(x) = bcos(x)$	$f_6'(x) = -bsin(x)$	$f_6''(x) = -bcos(x)$
$f_7(x) = \frac{1}{2}sin(x) + 3$	$f_7'(x) = \frac{1}{2}cos(x)$	$f_7''(x) = -\frac{1}{2}sin(x)$
$f_8(x) = \pi co\,s(x) - 5$	$f_8'(x) = -\pi sin(x)$	$f_8''(x) = -\pi cos(x)$

Lösung A2

$f_n(x)$	$f_n'(x)$	$f_n''(x)$
$f_1(x) = 2sin(x+2)$	$f_1'(x) = 2cos(x+2)$	$f_1''(x) = -2sin(x+2)$
$f_2(x) = asin(x+c)$	$f_2'(x) = acos(x+c)$	$f_2''(x) = -asin(x+2)$
$f_3(x) = \frac{1}{c}sin(x-8)$	$f_3'(x) = \frac{1}{c}cos(x-8)$	$f_3''(x) = -\frac{1}{c}sin(x-8)$
$f_4(x) = 0{,}5cos(x-2)$	$f_4'(x) = -0{,}5sin(x-2)$	$f_4''(x) = -0{,}5cos(x-2)$
$f_5(x) = 4 + cos(x-8)$	$f_5'(x) = -sin(x-8)$	$f_5''(x) = -cos(x-8)$
$f_6(x) = bcos(x+\pi)$	$f_6'(x) = -bsin(x+\pi)$	$f_6''(x) = -bcos(x+\pi)$
$f_7(t) = \frac{1}{2}sin\left(\frac{1}{8}+t\right) - 3$	$f_7'(x) = \frac{1}{2}cos\left(\frac{1}{8}+t\right)$	$f_7''(x) = -\frac{1}{2}sin\left(\frac{1}{8}+t\right)$
$f_8(t) = \pi co\,s(t+x) + x$	$f_8'(x) = -\pi sin(t+x)$	$f_8''(x) = -\pi cos(7+x)$

Lösung A3

a)	$f(x) = -9sin(x)$	$f'(x) = -9cos(x)$	$f''(x) = 9sin(x)$
b)	$f(x) = 5 + cos(x)$	$f'(x) = -sin(x)$	$f''(x) = -cos(x)$
c)	$f(x) = 5x - cos(x)$	$f'(x) = 5 + sin(x)$	$f''(x) = cos(x)$
d)	$f(x) = x^2 - \frac{1}{2}cos(x)$	$f'(x) = 2x + \frac{1}{2}sin(x)$	$f''(x) = 2 + \frac{1}{2}cos(x)$
e)	$f(x) = \frac{1}{x} + \frac{sin(x)}{2}$	$f'(x) = -\frac{1}{x^2} + \frac{cos(x)}{2}$	$f''(x) = \frac{2}{x^3} - \frac{sin(x)}{2}$
f)	$f(x) = \frac{3}{x^3} + 2\,sin(x)$	$f'(x) = -\frac{9}{x^4} + 2cos(x)$	$f''(x) = \frac{36}{x^5} - 2sin(x)$

g) $f(x) = \frac{x^{-3}}{3} - \frac{cos(x)}{4}$ $\quad f'(x) = -x^{-4} + \frac{sin(x)}{4}$ $\quad f''(x) = 4x^{-5} + \frac{cos(x)}{4}$

h) $f(x) = \frac{3sin(x)}{4} - \frac{2cos(x)}{5}$ $\quad f'(x) = \frac{3cos(x)}{4} + \frac{2sin(x)}{5}$ $\quad f''(x) = -\frac{3sin(x)}{4} + \frac{2cos(x)}{5}$

i) $f(x) = \sqrt{x} - \frac{1}{8}sin(x)$ $\quad f'(x) = \frac{1}{2\sqrt{x}} - \frac{1}{8}cos(x)$ $\quad f''^{(x)} = -\frac{1}{4x\sqrt{x}} + \frac{1}{8}sin(x)$