Produktregel

Bilde jeweils die erste Ableitung

1.	$f(x) = x \cdot \sin(x)$	$f'(x) = \sin(x) + x\cos(x)$
2.	$f(x) = x^3 \cdot \cos(x)$	$f'(x) = 3x^2\cos(x) - 3\cos(x)$
3.	$f(x) = \sin(x) \cdot \cos(x)$	$f'(x) = \cos^2(x) - \sin^2(x)$
4.	$f(x) = (2x + 3) \cdot \sin(x)$	$f'(x) = 2\sin(x) + (2x + 3)\cos(x)$
5.	$f(x) = (2x + 3) \cdot \cos(x)$	$f'(x) = 2\cos(x) - (2x + 3)\sin(x)$
6.	$f(x) = x \cdot \sqrt{x}$	$f'x) = \frac{3\sqrt{x}}{2}$
7.	$f(x) = \sqrt{x} \cdot \sin(x)$	$f'(x) = \frac{\sin(x)}{2\sqrt{x}} + \sqrt{x}\cos(x)$
8.	$f(x) = x^3 \cdot (2 + \sin(x))$	$f'(x) = 3x^2(\sin(x) + 2) + x^3\cos(x)$
9.	$f(x) = x \cdot \tan(x)$	$f'(x) = \tan(x) + x \cdot \frac{1}{\cos^2(x)}$
10.	$f(x) = \sin(x) \cdot \tan(x)$	$f'(x) = \cos(x)\tan(x) + \frac{1}{\cos^2(x)} \cdot \sin(x)$
11.	$f(x) = \sqrt{x} \cdot \tan(x)$	$f'(x) = \frac{1}{2\sqrt{x}} \cdot \tan(x) + \sqrt{x} \cdot \frac{1}{\cos^2(x)}$
12.	$f(x) = \sin(x) \cdot x$	$f'(x) = \cos(x) + \sin(x)$
13.	$f(x) = e^x \cdot x^2$	$f'(x) = e^x \cdot x^2 + e^x \cdot 2x$
14.	$f(x) = (e^x - 2) \cdot (x + 2)$	$f'(x) = e^x \cdot (x + 2) + e^x - 2$
15.	$f(x) = \ln(x) \cdot x$	$f'(x) = 1 + \ln(x)$
16.	$f(x) = \ln(x) \cdot \sin(x)$	$f'(x) = \frac{1}{x} \cdot \sin(x) + \ln(x) \cdot \cos(x)$
17.	$f(x) = \cos^2(x)$	$f'(x) = -2\sin(x) \cdot \cos(x)$
18.	$f(x) = \sqrt{x} \cdot e^x$	$f'(x) = \frac{1}{2\sqrt{x}} \cdot e^x + \sqrt{x} \cdot e^x$
19.	$f(x) = x^2 \cdot \sin(x)$	$f'(x) = 2x \cdot \sin(x) + x^2 \cdot \cos(x)$
20.	$f(x) = (x^2 - x + 2) \cdot \sin(x)$	$f'(x) = (2x - 1) \cdot \sin(x) + (x^2 - x + 2) \cdot \cos(x)$
21.	$f(x) = e^x \cdot \cos(x)$	$f'(x) = e^x \cdot \cos(x) - e^x \cdot \sin(x)$
22.	$f(x) = (\sin(x) + \cos(x)) \cdot \tan(x)$	$f'(x) = (\cos(x) - \sin(x))) \cdot \tan(x) + (\sin(x) + \cos(x) \cdot \frac{1}{\cos^2(x)}$