

S. 144 Aufgabe 3 gelöst von Christiaan Teipel

**Aufgabe:** Geben Sie jeweils eine Stammfunktion für  $f(x)$  an.  $F(x)=$

a)  $\int (3x) dx = \frac{3}{2}x^2 + C$

b)  $\int \left(\frac{1}{2}x\right) dx = \frac{1}{2} * \frac{1}{2}x^2 = \frac{1}{4}x^2 + C$

c)  $\int (\sqrt{2}x) dx = \frac{\sqrt{2}}{2}x^2 = \frac{2^{1/2}}{2^1}x^2 = 2^{((1/2)-1)}x^2 = 2^{(-1/2)}x^2 = \frac{1}{\sqrt{2}}x^2 + C$

d)  $\int (4) dx = 4x + C$

e)  $\int (0) dx = 0 + C$

f)  $\int (2x - 1) dx = x^2 - x + C$

g)  $\int (2(x - 4)) dx = \int (2x - 8) dx = x^2 - 8x + C$

h)  $\int ((1 - 3x)2) dx = \int (-6x + 2) dx = -3x^2 + 2x + C$

i)  $\int \left(\frac{1+2x}{2}\right) dx = \int \left(\frac{1}{2} + \frac{2x}{2}\right) dx = \int \left(\frac{1}{2} + x\right) dx = \frac{1}{2}x^2 + \frac{1}{2}x + C$

j)  $\int \left(\frac{x-2}{4}\right) dx = \int \left(\frac{x}{4} - \frac{2}{4}\right) dx = \int \left(\frac{1}{4}x - \frac{1}{2}\right) dx = \frac{1}{8}x^2 - \frac{1}{2}x + C$

---