

## Lösung zu komplexeren Stammfunktionen

|   |   |
|---|---|
| $f(x) = (4x - 5)^7$   | $F(x) = \frac{1}{32} \cdot (4x - 5)^8$                                      |
| $f(x) = 3 \cdot (5 - 2x)^6$                                 | $F(x) = -\frac{3}{14} \cdot (5 - 2x)^7$                                     |
| $f(x) = (-2) \cdot (8x + 9)^2$                              | $F(x) = -\frac{2}{24} \cdot (8x + 9)^3 = -\frac{1}{12} \cdot (8x + 9)^3$    |
| $f(x) = (6x + 3)^{-2}$                                      | $F(x) = -\frac{1}{6} \cdot (6x + 3)^{-1}$                                   |
| $f(x) = \frac{1}{(9x-1)^4} = (9x - 1)^{-4}$                 | $F(x) = -\frac{1}{27} \cdot (9x - 1)^{-3}$                                  |
| $f(x) = \frac{4}{(1-4x)^5} = 4 \cdot (1 - 4x)^{-5}$         | $F(x) = \frac{4}{16} \cdot (1 - 4x)^{-4} = \frac{1}{4} \cdot (1 - 4x)^{-4}$ |
| $f(x) = 4 \cdot (9x + 2)^{-4}$                              | $F(x) = -\frac{4}{27} \cdot (9x + 2)^{-3}$                                  |
| $f(x) = \sqrt{3x + 1} = (3x + 1)^{\frac{1}{2}}$             | $F(x) = \frac{2}{9} \cdot (3x + 1)^{\frac{3}{2}}$                           |
| $f(x) = \sqrt[3]{4x + 9} = (4x + 9)^{\frac{1}{3}}$          | $F(x) = \frac{3}{16} \cdot (4x + 9)^{\frac{4}{3}}$                          |
| $f(x) = \frac{1}{\sqrt[3]{8x+1}} = (8x + 1)^{-\frac{1}{3}}$ | $F(x) = \frac{3}{16} \cdot (8x + 1)^{\frac{2}{3}}$                          |
| $f(x) = e^{5x}$   | $F(x) = \frac{e^{5x}}{5}$   |
| $f(x) = 3 \cdot e^{-7x}$                                    | $F(x) = -\frac{3}{7} \cdot e^{-7x}$   |
| $f(x) = \frac{1}{e^x} = e^{-x}$                             | $F(x) = -e^{-x}$  |
| $f(x) = (-0,5) \cdot e^{x+3}$                               | $F(x) = (-0,5) \cdot e^{x+3}$   |
| $f(x) = 4 \cdot e^{4x-3} + 3x$                              | $F(x) = e^{4x-3} + 1,5 x^2$   |
| $f(x) = 1 + e^{0,5x}$                                       | $F(x) = x + 2 \cdot e^{0,5x}$   |
| $f(x) = e^{-3x} \cdot 9$                                    | $F(x) = -3 \cdot e^{-3x}$   |
| $f(x) = 0,5 \cdot e^{-6x-3} + 0,5 \cdot e^{8x-1}$           | $F(x) = -\frac{1}{12} \cdot e^{-6x-3} + \frac{1}{16} \cdot e^{8x-1}$        |
| $f(x) = e^{-x+4} - (3x + 1)^6$                              | $F(x) = -e^{-x+4} - \frac{1}{21} \cdot (3x + 1)^7$                          |
| $f(x) = \frac{2}{e} \cdot e^{-7x}$                          | $F(x) = -\frac{2}{7e} \cdot e^{-7x}$  |