

Aufgabenblatt

zu unbestimmten Integralen

Integralrechnung

Lösungen

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Level 1 – Grundlagen – Blatt 1

Lösung A1

$f_1(x) = 1$	$F_1(x) = x$
$f_2(x) = 0,25$	$F_2(x) = 0,25x$
$f_3(x) = 10^5$	$F_3(x) = 10^5x$
$f_4(x) = a$	$F_4(x) = ax$
$f_5(x) = b^{-1}$	$F_5(x) = b^{-1}x$
$f_6(t) = e^2$	$F_6(t) = e^2t$
$f_7(t) = 125x$	$F_7(t) = 125xt$

Lösung A2

$f_1(x) = x$	$F_1(x) = \frac{1}{2}x^2$
$f_2(x) = 0,25x$	$F_2(x) = 0,125x^2$
$f_3(x) = 10^5x$	$F_3(x) = \frac{10^5}{2}x^2$
$f_4(x) = ax$	$F_4(x) = \frac{1}{2}ax^2$
$f_5(x) = b^{-1}x$	$F_5(x) = b^{-1}x$
$f_6(t) = e^2t$	$F_6(t) = \frac{1}{2}e^2t^2$
$f_7(t) = 125xt$	$F_7(t) = 62,5xt^2$

Lösung A3

$f_1(x) = x^2$	$F_1(x) = \frac{1}{3}x^3 + C$
$f_2(x) = 0,25x^3$	$F_2(x) = \frac{1}{16}x^4 + C$
$f_3(x) = 10^5x^4$	$F_3(x) = \frac{10^5}{5}x^5 + C$
$f_4(x) = ax^5$	$F_4(x) = \frac{1}{6}ax^6 + C$
$f_5(x) = b^{-1}x^6$	$F_5(x) = \frac{1}{7}b^{-1}x^7 + C$
$f_6(t) = e^2t^2$	$F_6(t) = \frac{1}{3}e^2t^3 + C$
$f_7(t) = 125xt^3$	$F_7(t) = \frac{125}{4}xt^4 + C$