

Aantekeningen A7, A8 en A1

Differentiëren, primitiveren, e en ln, parametervoorstelling, gonioformules

ANTWOORDEN

1. $f'(x) = e^{2x} \cdot \frac{3}{3x} + 2 \cdot e^{2x} \cdot \ln 3x$
2. $F(x) = \frac{1}{\ln 2} (x \cdot \ln x - x)$
3. $5^{2x} = 4 \Rightarrow 2x = \frac{\ln 4}{\ln 5} \Rightarrow x = \frac{1}{2} \cdot \frac{\ln 4}{\ln 5}$
4. $y = x \Rightarrow \cos t = \sin 2t \Rightarrow \cos t = 2 \sin t \cos t \Rightarrow \cos t = 0 \vee \sin t = \frac{1}{2}$ etc
5. $\int x \cdot e^{x^2+3} dx = \frac{1}{2} \cdot e^{x^2+3}$
6. $F(x) = \frac{1}{\ln 5} \cdot \frac{1}{2} \cdot 5^{2x}$
7. $f'(x) = \frac{(x+1) \cdot 1 - x \cdot 1}{(x+1)^2}$
8. $t = x - 1 \Rightarrow y = (x - 1)^2 - 1$
9. $f'(x) = e^{2x} \cdot 3 \cdot \cos 3x + 2 \cdot e^{2x} \cdot \sin 3x$
10. $F(x) = \frac{1}{2} \cdot e^{2x} + ex$
11. $A(\frac{1}{2}\sqrt{2}, -\frac{1}{2}\sqrt{2})$ en $B(-\frac{1}{2}\sqrt{2}, \frac{1}{2}\sqrt{2})$
12. $f'(x) = e \cdot x^{e-1} + e^x + \pi \cdot x^{\pi-1}$
13. $\int_2^{\infty} \frac{1}{x^2} dx = [-\frac{1}{x}]_2^{\infty} = (0) - (-\frac{1}{2}) = \frac{1}{2}$
14. $x = \cos 2x = 2 \cos^2 x - 1 = 2 \cdot y - 1$
15. $F(x) = (3x - 1) \cdot e^x$
16. $\sin 2x = \cos x$ met $2 \cdot \sin x \cos x = \cos x$ zie 4
17. $\sin 2x = \cos x \Rightarrow \sin 2x = \sin(\frac{1}{2}\pi - x)$ etc
18. $\cos 2x = 1 - \frac{3}{4} \cdot \sin x \Rightarrow 1 - 2 \sin^2 x = 1 - \frac{3}{4} \cdot \sin x \Rightarrow 2 \sin^2 x + \frac{3}{4} \cdot \sin x - 1 = 0$ etc
19. $F(x) = -3 \cdot \ln|5 - x|$
20. $f'(x) = 3^x \cdot \frac{2}{2x-1} + \ln 3 \cdot 3^x \cdot \ln(2x-1)$

E I N D E