Oefeningen bepaalde integralen

0.1 Niveau 2

Oefening 1. Bereken volgende bepaalde integralen:

1. $\int_0^{\frac{\pi}{2}} x \sin x \, dx = \ldots\ldots$

2. $\int_0^{\frac{\pi}{2}} \sin^2\theta \cos\theta \, d\theta = \ldots\ldots$

3. $\int_0^{\frac{\pi}{3}} \cos 2x \sin x \, dx = \ldots\ldots$

4. $\int_0^1 xe^{2x} \, dx = \ldots\ldots$

5. $\int_0^1 \frac{x}{(4+x^2)^2} \, dx = \ldots\ldots$

6. $\int_0^2 \frac{2x+1}{\sqrt{x+1}} \, dx = \ldots\ldots$

7. $\int_0^{\pi} \cos^2 t \, dt = \ldots\ldots$

8. $\int_0^{\pi} x^2 \cos 3x \, dx = \ldots\ldots$

9. $\int_0^4 \frac{1}{1+\sqrt{x}} \, dx = \ldots\ldots$

10. $\int_0^1 x^3 e^{-x^2} \, dx = \ldots\ldots$

Oefening 2. Bron: https://github.com/ptgressman/math104

MIT License Copyright (c) 2019 Philip Gressman

1. Bereken $\int_1^4 e^{3x}(x+1) \, dx$.

Meerkeuze:

(a) $\frac{14}{9}e^{12} - \frac{5}{9}e^3$

(b) $\frac{17}{9}e^{12} - \frac{5}{9}e^3$

(c) $\frac{17}{9}e^{12} - \frac{8}{9}e^3$

(d) $\frac{20}{9}e^{12} - \frac{8}{9}e^3$

(e) $\frac{20}{9}e^{12} - \frac{11}{9}e^3$

(f) $\frac{23}{9}e^{12} - \frac{11}{9}e^3$

2. Bereken $\int_{\pi}^{2\pi} x \sin 4x \, dx$.

Meerkeuze:

CC BY-NC-SA 4.0
KU Leuven (2026/09/28H.48)

Oefeningen bepaalde integralen

(a) 0

(b) $\frac{\pi}{4}$

(c) $-\frac{\pi}{4}$

(d) $\frac{3\pi}{4}$

(e) $-\frac{3\pi}{4}$

(f) $\frac{7\pi}{4}$

CC BY-NC-SA 4.0
KU Leuven (2026/09/28H.48)