

**Mathematics 2023/24, Homework 5**  
**bonus: 2 points, deadline: December 21, 2023**

Find the following integrals:

1.  $\int (3x^5 - 4x^3 - 7x + 8) dx$

2.  $\int \frac{1}{x^3} dx$

3.  $\int \sqrt{x} dx$

4.  $\int x e^{x^2-3} dx$

5.  $\int x \sin x dx$

6.  $\int (4x + 5)^7 dx$

7.  $\int \frac{1}{x+2} dx$

8.  $\int_1^2 (x^2 + 3x - 1) dx$

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Instructions for writing homework:

- Write your homework with solution (not only the results).
- Take a photo of the homework and convert the picture to PDF (use <https://tools.pdf24.org/en/jpg-to-pdf>).
- Compress the file if it is large (use <https://tools.pdf24.org/en/compress-pdf>).
- Send the final PDF file to the teacher (either e-mail: [fisnarov@mendelu.cz](mailto:fisnarov@mendelu.cz) or chat in MS Teams).