Task card 1 Integrals by u-Substitution

Find the antiderivative: $\int 2x(x^2 + 1)^3 \, dx$

Task card 2 Integrals by u-Substitution

Find the antiderivative: $\int e^{4x} \, dx$

Task card 3 Integrals by u-Substitution

Find the antiderivative: $\int \sin(6x) \, dx$

Task card 4 Integrals by u-Substitution

Find the antiderivative: $\int (4x - 3)^4 \, dx$

Task card 5 Integrals by u-Substitution

Find the antiderivative: $\int 2x(x^2 + 5)^2 \, dx$

Task card 6 Integrals by u-Substitution

Find the antiderivative: $\int e^{2x} \, dx$

Task card 7 Integrals by u-Substitution

Find the antiderivative: $\int \cos(6x)\,dx$

Task card 8 Integrals by u-Substitution

Find the antiderivative: $\int (3x + 4)^2\,dx$

Task card 9 Integrals by u-Substitution

Find the antiderivative: $\int e^{5x}\,dx$

Task card 10 Integrals by u-Substitution

Find the antiderivative: $\int \sin(3x)\,dx$

Task card 11 Integrals by u-Substitution

Find the antiderivative: $\int (2x + 5)^4\,dx$

Task card 12 Integrals by u-Substitution

Find the antiderivative: $\int 2x(x^2 + 3)^3\,dx$

Task card 13 Integrals by u-Substitution

Find the antiderivative: $\int \cos(3x)\,dx$

Task card 14 Integrals by u-Substitution

Find the antiderivative: $\int (5x - 2)^2\,dx$

Task card 15 Integrals by u-Substitution

Find the antiderivative: $\int 6x(x^2 + 1)^4\,dx$

Task card 16 Integrals by u-Substitution

Find the antiderivative: $\int (2x - 3)^6\,dx$

Task card 17 Integrals by u-Substitution

Find the antiderivative: $\int 2e^{3x}\,dx$

Task card 18 Integrals by u-Substitution

Find the antiderivative: $\int 4\sin(6x)\,dx$

Task card 19 Integrals by u-Substitution

Evaluate the definite integral $\int$ from 0 to 2 of $2x(x^2 + 2)\,dx$.

Task card 20 Integrals by u-Substitution

Find the antiderivative: $\int x^2 e^{x^3}\,dx$

Task card 21 Integrals by u-Substitution

Find the antiderivative: $\int 6x^2(x^3 + 5)^4\,dx$

Task card 22 Integrals by u-Substitution

Evaluate the definite integral $\int$ from 0 to 1 of $(2x - 2)^3\,dx$.

Task card 23 Integrals by u-Substitution

Find the antiderivative: $\int 2x(x^2 + 2)^3\,dx$

Task card 24 Integrals by u-Substitution

Find the antiderivative: $\int \sin(5x)\,dx$

Integrals by u-Substitution Task Cards

Recording sheet · Grade 12 · Use u-substitution. Write an indefinite answer as a number times the function, plus C, with fractions in simplest form, like (1/4)(x^2 + 1)^4 + C, (1/3)e^(3x) + C or -(1/2)cos(2x) + C. Give a definite integral as an exact whole number or fraction.

Scan to check your answers

Name: _____ Date: _____

1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	16
17	18	19	20
21	22	23	24

Integrals by u-Substitution Task Cards: Answer Key

Grade 12 · Easy

The answers online

1. $\frac{1}{4}(x^2 + 1)^4 + C$

2. $\frac{1}{4}e^{4x} + C$

3. $-\frac{1}{6}\cos(6x) + C$

4. $\frac{1}{20}(4x - 3)^5 + C$

5. $\frac{1}{3}(x^2 + 5)^3 + C$

6. $\frac{1}{2}e^{2x} + C$

7. $\frac{1}{6}\sin(6x) + C$

8. $\frac{1}{9}(3x + 4)^3 + C$

9. $\frac{1}{5}e^{5x} + C$

10. $-\frac{1}{3}\cos(3x) + C$

11. $\frac{1}{10}(2x + 5)^5 + C$

12. $\frac{1}{4}(x^2 + 3)^4 + C$

13. $\frac{1}{3}\sin(3x) + C$

14. $\frac{1}{15}(5x - 2)^3 + C$

15. $\frac{3}{5}(x^2 + 1)^5 + C$

16. $\frac{1}{14}(2x - 3)^7 + C$

17. $\frac{2}{3}e^{3x} + C$

18. $-\frac{2}{3}\cos(6x) + C$

19. 16

20. $\frac{1}{3}e^{x^3} + C$

21. $\frac{2}{5}(x^3 + 5)^5 + C$

22. -2

23. $\frac{1}{4}(x^2 + 2)^4 + C$

24. $-\frac{1}{5}\cos(5x) + C$