Task card 1 Integrals by u-Substitution

Find the antiderivative: $\int 8x^2(x^3 + 2)^3\,dx$

Task card 2 Integrals by u-Substitution

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

Task card 3 Integrals by u-Substitution

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

Task card 4 Integrals by u-Substitution

Evaluate the definite integral $\int$ from 0 to $\pi/8$ of $2\cos(4x)\,dx$.

Task card 5 Integrals by u-Substitution

Find the antiderivative: $\int 6x\,e^{x^2}\,dx$

Task card 6 Integrals by u-Substitution

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

Task card 7 Integrals by u-Substitution

Evaluate the definite integral $\int$ from 0 to 1 of $6x(x^2 + 2)^3$ dx.

Task card 8 Integrals by u-Substitution

Find the antiderivative: $\int 4x(x^2 - 4)^2$ dx

Task card 9 Integrals by u-Substitution

Find the antiderivative: $\int 10x(x^2 - 2)^4$ dx

Task card 10 Integrals by u-Substitution

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

Task card 11 Integrals by u-Substitution

Evaluate the definite integral $\int$ from 0 to $\pi/8$ of $3\cos(4x)$ dx.

Task card 12 Integrals by u-Substitution

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

Task card 13 Integrals by u-Substitution

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

Task card 14 Integrals by u-Substitution

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

Task card 15 Integrals by u-Substitution

Find the antiderivative: $\int 10x^2(x^3 - 4)^5$ dx

Task card 16 Integrals by u-Substitution

Find the antiderivative: $\int 12x(x^2 - 1)^2$ dx

Task card 17 Integrals by u-Substitution

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

Task card 18 Integrals by u-Substitution

Evaluate the definite integral $\int$ from 0 to 1 of $4x(x^2 + 3)$ dx.

Task card 19 Integrals by u-Substitution

Evaluate the definite integral $\int$ from 0 to $\pi/8$ of $2\sin(4x)\,dx$.

Task card 20 Integrals by u-Substitution

Find the antiderivative: $\int 4x^2 e^{x^3}\,dx$

Task card 21 Integrals by u-Substitution

Evaluate the definite integral $\int$ from 0 to 2 of $(2x - 4)^2\,dx$.

Task card 22 Integrals by u-Substitution

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

Task card 23 Integrals by u-Substitution

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

Task card 24 Integrals by u-Substitution

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

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 · Hard

The answers online

1. $\frac{2}{3}(x^3 + 2)^4 + C$	**2.** $2\sin(x^2) + C$	**3.** $\frac{65}{8}$
4. $\frac{1}{2}$	**5.** $3e^{x^2} + C$	**6.** 10
7. $\frac{195}{4}$	**8.** $\frac{2}{3}(x^2 - 4)^3 + C$	**9.** $(x^2 - 2)^5 + C$
10. 20	**11.** $\frac{3}{4}$	**12.** $\frac{1}{2}e^{x^2} + C$
13. 10	**14.** $\frac{5}{2}$	**15.** $\frac{5}{9}(x^3 - 4)^6 + C$
16. $2(x^2 - 1)^3 + C$	**17.** $\sin(x^3) + C$	**18.** 7
19. $\frac{1}{2}$	**20.** $\frac{4}{3}e^{x^3} + C$	**21.** $\frac{32}{3}$
22. $\frac{93}{2}$	**23.** $\frac{1}{5}(x^2 + 4)^5 + C$	**24.** $\frac{1}{2}(x^2 + 5)^4 + C$