Task card 1 Integrals by u-Substitution

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

Task card 2 Integrals by u-Substitution

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

Task card 3 Integrals by u-Substitution

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

Task card 4 Integrals by u-Substitution

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

Task card 5 Integrals by u-Substitution

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

Task card 6 Integrals by u-Substitution

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

Task card 7 Integrals by u-Substitution

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

Task card 8 Integrals by u-Substitution

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

Task card 9 Integrals by u-Substitution

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

Task card 10 Integrals by u-Substitution

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

Task card 11 Integrals by u-Substitution

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

Task card 12 Integrals by u-Substitution

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

Task card 13 Integrals by u-Substitution

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

Task card 14 Integrals by u-Substitution

Evaluate the definite integral $\int$ from 0 to $\pi/6$ of $2\sin(3x)$ dx.

Task card 15 Integrals by u-Substitution

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

Task card 16 Integrals by u-Substitution

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

Task card 17 Integrals by u-Substitution

Find the antiderivative: $\int 4x(x^2 + 1)^5\ dx$

Task card 18 Integrals by u-Substitution

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

Task card 19 Integrals by u-Substitution

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

Task card 20 Integrals by u-Substitution

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

Task card 21 Integrals by u-Substitution

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

Task card 22 Integrals by u-Substitution

Evaluate the definite integral $\int$ from 0 to $\pi/6$ of $6\sin(2x)\, dx$.

Task card 23 Integrals by u-Substitution

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

Task card 24 Integrals by u-Substitution

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

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 · Medium

The answers online

1. $\frac{1}{15}(x^3 + 2)^5 + C$	**2.** $\frac{1}{21}(3x - 4)^7 + C$	**3.** $-2e^{-2x} + C$
4. $\frac{2}{3}\sin(6x) + C$	**5.** 316	**6.** $\frac{1}{3}e^{x^3} + C$
7. $\frac{3}{4}(x^2 + 3)^4 + C$	**8.** 0	**9.** $\frac{8}{9}(x^3 - 2)^3 + C$
10. $2e^{x^2} + C$	**11.** $-2\cos(x^2) + C$	**12.** 156
13. -10	**14.** $\frac{2}{3}$	**15.** $\frac{1}{2}\sin(4x) + C$
16. $e^{4x} + C$	**17.** $\frac{1}{3}(x^2 + 1)^6 + C$	**18.** $3e^{x^2} + C$
19. $\sin(x^2) + C$	**20.** $\frac{33}{2}$	**21.** $\frac{32}{3}$
22. $\frac{3}{2}$	**23.** $2\sin(2x) + C$	**24.** $-e^{-2x} + C$