Task card 1 Definite Integrals & the Fundament...

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

Task card 2 Definite Integrals & the Fundament...

Given $\int$ from -1 to 5 of $f(x)\,dx = 3$, find $\int$ from -1 to 5 of $4f(x)\,dx$.

Task card 3 Definite Integrals & the Fundament...

Let $F(x) = \int$ from 2 to x of $(t^2 + 4t - 3)\,dt$. Find $F'(2)$.

Task card 4 Definite Integrals & the Fundament...

Evaluate the definite integral $\int$ from 2 to 5 of $(2x^2 - x + 4)\,dx$.

Task card 5 Definite Integrals & the Fundament...

A particle moves along a line with velocity $v(t) = 2t^2 + 4t - 5$ meters per second. Find its displacement (in meters) from $t = 1$ to $t = 3$.

Task card 6 Definite Integrals & the Fundament...

Given $\int$ from 0 to 6 of $f(x)\,dx = -2$ and $\int$ from 0 to 4 of $f(x)\,dx = 3$, find $\int$ from 4 to 6 of $f(x)\,dx$.

Task card 7 Definite Integrals & the Fundament...

Evaluate the definite integral ∫ from 0 to 2 of $(2x^2 - 4x - 6)\,dx$.

Task card 8 Definite Integrals & the Fundament...

Evaluate the definite integral ∫ from 1 to 4 of $(2x^2 - 5x - 3)\,dx$.

Task card 9 Definite Integrals & the Fundament...

Evaluate the definite integral ∫ from 1 to 2 of $(-x^3 - 4x - 1)\,dx$.

Task card 10 Definite Integrals & the Fundament...

Let $F(x) = \int$ from 3 to x of $(-t^3 + 2t^2 - 4)\,dt$. Find $F'(4)$.

Task card 11 Definite Integrals & the Fundament...

Find the average value of $f(x) = x^3 - 5x^2 + 1$ on the interval $[0, 4]$.

Task card 12 Definite Integrals & the Fundament...

Given ∫ from 2 to 4 of $f(x)\,dx = 9$ and ∫ from 4 to 8 of $f(x)\,dx = 10$, find ∫ from 2 to 8 of $f(x)\,dx$.

Task card 13 Definite Integrals & the Fundament...

Given $\int$ from 3 to 7 of f(x) dx = -7, find $\int$ from 3 to 7 of (f(x) + 1) dx.

Task card 14 Definite Integrals & the Fundament...

A particle moves along a line with velocity $v(t) = -t^3 - 4t^2 + 3$ meters per second. Find its displacement (in meters) from t = 0 to t = 2.

Task card 15 Definite Integrals & the Fundament...

Evaluate the definite integral $\int$ from 0 to 1 of $(-2x^3 + 5x^2 + 4)$ dx.

Task card 16 Definite Integrals & the Fundament...

Let $F(x) = \int$ from 3 to x of $(t^3 + 4t)$ dt. Find F'(4).

Task card 17 Definite Integrals & the Fundament...

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

Task card 18 Definite Integrals & the Fundament...

Let $F(x) = \int$ from 3 to x of $(3t^3 + 2t^2 - 5)$ dt. Find F'(3).

Task card 19 Definite Integrals & the Fundament...

Find the average value of $f(x) = -x^3 - x - 1$ on the interval $[1, 3]$.

Task card 20 Definite Integrals & the Fundament...

Given $\int$ from 2 to 6 of $f(x)\,dx = 12$ and $\int$ from 2 to 3 of $f(x)\,dx = 4$, find $\int$ from 3 to 6 of $f(x)\,dx$.

Task card 21 Definite Integrals & the Fundament...

Given $\int$ from 2 to 4 of $f(x)\,dx = 6$, find $\int$ from 4 to 2 of $f(x)\,dx$.

Task card 22 Definite Integrals & the Fundament...

A particle moves along a line with velocity $v(t) = 2t^3 - t + 1$ meters per second. Find its displacement (in meters) from $t = 0$ to $t = 1$.

Task card 23 Definite Integrals & the Fundament...

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

Task card 24 Definite Integrals & the Fundament...

Let $F(x) = \int$ from 0 to x of $(-t^3 - 3t^2 + 5)\,dt$. Find $F'(3)$.

Definite Integrals & the Fundamental Theorem Task Cards

Recording sheet · Grade 12 · Give each answer as an exact number: a whole number or a fraction in simplest form, like 14/3 or -5/2.

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

Definite Integrals & the Fundamental Theorem Task Cards: Answer Key

Grade 12 · Medium

The answers online

1. $-\frac{9}{2}$	**2.** 12	**3.** 9
4. $\frac{159}{2}$	**5.** $\frac{70}{3}$	**6.** -5
7. $-\frac{44}{3}$	**8.** $-\frac{9}{2}$	**9.** $-\frac{43}{4}$
10. -36	**11.** $-\frac{29}{3}$	**12.** 19
13. -3	**14.** $-\frac{26}{3}$	**15.** $\frac{31}{6}$
16. 80	**17.** $\frac{51}{4}$	**18.** 94
19. -13	**20.** 8	**21.** -6
22. 1	**23.** $\frac{15}{2}$	**24.** -49