Definite Integrals & the Fundamental Theorem · 1

Evaluate the definite integral ∫ from 1 to 2 of (-2x³ - 3x² + 2) dx.

Definite Integrals & the Fundamental Theorem · 2

Let G(x) = ∫ from 0 to 3x of (3t + 5) dt. Find G'(-2).

Definite Integrals & the Fundamental Theorem · 3

Find the average value of f(x) = x³ - 2x² + 2 on the interval [0, 4].

Definite Integrals & the Fundamental Theorem · 4

Evaluate the definite integral ∫ from 1 to 2 of (3x³ - 3x + 2) dx.

Definite Integrals & the Fundamental Theorem · 5

Given ∫ from 3 to 5 of f(x) dx = 5, find ∫ from 5 to 3 of f(x) dx.

Definite Integrals & the Fundamental Theorem · 6

Let G(x) = ∫ from 0 to 2x + 1 of (t - 3) dt. Find G'(2).

Definite Integrals & the Fundamental Theorem · 7

Given ∫ from 1 to 2 of f(x) dx = 7 and ∫ from 2 to 3 of f(x) dx = 8, find ∫ from 1 to 3 of f(x) dx.

Definite Integrals & the Fundamental Theorem · 8

A particle moves along a line with velocity v(t) = t³ - 2t - 6 meters per second. Find its displacement (in meters) from t = 1 to t = 2.

Definite Integrals & the Fundamental Theorem · 2

ANSWER

$$-39$$

Definite Integrals & the Fundamental Theorem · 1

ANSWER

$$\frac{25}{-2}$$

Definite Integrals & the Fundamental Theorem · 4

ANSWER

$$\frac{35}{4}$$

Definite Integrals & the Fundamental Theorem · 3

ANSWER

$$\frac{22}{3}$$

Definite Integrals & the Fundamental Theorem · 6

ANSWER

$$4$$

Definite Integrals & the Fundamental Theorem · 5

ANSWER

$$-5$$

Definite Integrals & the Fundamental Theorem · 8

ANSWER

$$\frac{21}{-4}$$

Definite Integrals & the Fundamental Theorem · 7

ANSWER

$$15$$

Definite Integrals & the Fundamental Theorem · 9

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

Definite Integrals & the Fundamental Theorem · 10

Let G(x) = ∫ from 1 to x^3 of (t - 5) dt. Find G'(-2).

Definite Integrals & the Fundamental Theorem · 11

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

Definite Integrals & the Fundamental Theorem · 12

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

Definite Integrals & the Fundamental Theorem · 13

Given ∫ from 1 to 4 of f(x) dx = 2, find ∫ from 1 to 4 of -2f(x) dx.

Definite Integrals & the Fundamental Theorem · 14

Let G(x) = ∫ from 1 to $x^2 + 1$ of ($2t^2 + 2$) dt. Find G'(1).

Definite Integrals & the Fundamental Theorem · 15

Given ∫ from 0 to 3 of f(x) dx = 9 and ∫ from 3 to 4 of f(x) dx = -5, find ∫ from 0 to 4 of f(x) dx.

Definite Integrals & the Fundamental Theorem · 16

A particle moves along a line with velocity v(t) = $-2t^3 - 5t^2 - 4$ meters per second. Find its displacement (in meters) from t = 0 to t = 2.

Definite Integrals & the Fundamental Theorem · 10

ANSWER

$$-156$$

Definite Integrals & the Fundamental Theorem · 9

ANSWER

$$\frac{93}{-4}$$

Definite Integrals & the Fundamental Theorem · 12

ANSWER

$$\frac{1}{-4}$$

Definite Integrals & the Fundamental Theorem · 11

ANSWER

$$\frac{151}{3}$$

Definite Integrals & the Fundamental Theorem · 14

ANSWER

$$20$$

Definite Integrals & the Fundamental Theorem · 13

ANSWER

$$-4$$

Definite Integrals & the Fundamental Theorem · 16

ANSWER

$$\frac{88}{-3}$$

Definite Integrals & the Fundamental Theorem · 15

ANSWER

$$4$$

Definite Integrals & the Fundamental Theorem · 17

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

Definite Integrals & the Fundamental Theorem · 18

Let $G(x) = \int$ from 1 to $2x + 1$ of $(3t^2 + 5)$ dt. Find $G'(1)$.

Definite Integrals & the Fundamental Theorem · 19

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

Definite Integrals & the Fundamental Theorem · 20

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

Definite Integrals & the Fundamental Theorem · 21

Given $\int$ from 1 to 5 of f(x) dx = -5, find $\int$ from 1 to 5 of (f(x) - 2) dx.

Definite Integrals & the Fundamental Theorem · 22

Let $G(x) = \int$ from 2 to x^2 of $(2t - 2)$ dt. Find $G'(-2)$.

Definite Integrals & the Fundamental Theorem · 23

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

Definite Integrals & the Fundamental Theorem · 24

A particle moves along a line with velocity $v(t) = 2t^3 + 4t^2 + 3$ meters per second. Find its displacement (in meters) from t = 0 to t = 1.

Definite Integrals & the Fundamental Theorem · 18

ANSWER

$$64$$

Definite Integrals & the Fundamental Theorem · 17

ANSWER

$$42$$

Definite Integrals & the Fundamental Theorem · 20

ANSWER

$$41 - 12$$

Definite Integrals & the Fundamental Theorem · 19

ANSWER

$$\frac{23}{4}$$

Definite Integrals & the Fundamental Theorem · 22

ANSWER

$$-24$$

Definite Integrals & the Fundamental Theorem · 21

ANSWER

$$-13$$

Definite Integrals & the Fundamental Theorem · 24

ANSWER

$$\frac{29}{6}$$

Definite Integrals & the Fundamental Theorem · 23

ANSWER

$$10$$