

If you are going to evaluate the integral:

$$\int \frac{x^3}{\sqrt{x^2 - 6x + 5}} dx$$

using trig substitution, which substitution should you use?

- A) $x = 2 \tan \theta + 3.$
- B) $x = \frac{3}{2} \tan \theta.$
- C) $x = 2 \sec \theta + 3.$
- D) $x = 3 \sin \theta + 2.$
- E) $x = \frac{3}{2} \sec \theta.$

- A)
- B)
- C)
- D)
- E)

[Clear my choice](#)

2

What is the form of the complete partial fractions decomposition of this function:

$$\frac{7}{x(x^2 + 5)(x^2 - 4)^2}$$

- A) $\frac{A}{x} + \frac{B}{x^2+5} + \frac{C}{(x^2-4)^2}$
- B) $\frac{A}{x} + \frac{Bx+C}{x^2+5} + \frac{Dx+E}{(x^2-4)^2}$
- C) $\frac{A}{x} + \frac{B}{x^2+5} + \frac{C}{x-2} + \frac{D}{x+2} + \frac{E}{(x-2)^2} + \frac{F}{(x+2)^2}$
- D) $\frac{A}{x} + \frac{Bx+C}{x^2+5} + \frac{Dx+E}{x^2-4} + \frac{Fx+G}{(x^2-4)^2}$
- E) $\frac{A}{x} + \frac{Bx+C}{x^2+5} + \frac{D}{x-2} + \frac{E}{x+2} + \frac{F}{(x-2)^2} + \frac{G}{(x+2)^2}$

- A)
- B)
- C)
- D)
- E)

Clear my choice

4

Evaluate: $\int_0^5 \frac{1}{x-2} dx$.

- A) $\ln 3 - \ln(-2)$.
- B) The integral diverges.
- C) $\ln 3 - \ln 2$.
- D) $-\ln 3 + \ln 2$.
- E) $\ln 3 + \ln 2$.

- A)
- B)
- C)
- D)
- E)

Clear my choice

Question 5

Not yet answered

Marked out of 2

Flag question

Evaluate: $\int_e^{\infty} \frac{1}{x(\ln x)^{e+1}} dx$.

- A) 0.
- B) $\frac{1}{e+1}$.
- C) $\frac{1}{e}$.
- D) 1.
- E) The integral diverges.

- A)
- B)
- C)
- D)
- E)

Clear my choice

Question 6

Not yet answered

Marked out of 2

Flag question

Evaluate the integral:

$$\int \frac{1}{\sqrt{x^2 - 16}} dx$$

A) $\ln|x + \sqrt{x^2 - 16}| + c$.

Question 3

Not yet answered

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Flag question

$$\int \frac{2x^3 - x + 3}{x + 1} dx = \int \frac{2}{x + 1} + p(x) dx$$

What is $p(x)$?

- A) $2x^2 - 2x + 1.$
 - B) $2x^2 - x - 1.$
 - C) $2x^2 + 3x + 1.$
 - D) $2x^3 - x + 1.$
 - E) $2x^3 - x.$
- A)
- B)
- C)
- D)
- E)

Clear my choice

Evaluate the integral: $\int \cos 5x \cos 3x dx$.

A) $-\frac{1}{4} \sin 2x - \frac{1}{16} \sin 8x + c.$

B) $\frac{1}{4} \sin 2x - \frac{1}{16} \sin 8x + c.$

C) $-\frac{1}{4} \sin 2x + \frac{1}{16} \sin 8x + c.$

D) $\frac{1}{4} \sin 2x + \frac{1}{16} \sin 8x + c.$

E) $\frac{1}{2} \cos 2x + \frac{1}{2} \cos 8x + c.$

A)

B)

C)

D)

E)

Clear my choice

Find the area of the region enclosed by the graphs of:

$$y^2 = 9 - x \text{ and } x = 5.$$

A) $\frac{32}{3}$.

B) $\frac{24}{3}$.

C) $\frac{16}{3}$.

D) $\frac{8}{3}$.

E) $\frac{4}{3}$.

A)

B)

C)

D)

E)

Clear my choice

A certain substitution gives:

$$\int \cot^n x \csc^4 x dx = \int -u^2 - u^4 du$$

What is n ?

- A) 7.
- B) 5.
- C) 4.
- D) 3.
- E) 2.

- A)
- B)
- C)
- D)
- E)

[Clear my choice](#)

Question 1

Not yet answered

Marked out of 2

Flag question

Suppose f is a function for which f' and f'' exist. You are given that:

$$f(0) = 1 \quad f'(0) = 5$$

$$f(2) = 3 \quad f'(2) = 7$$

Find the value of $\int_0^2 \frac{7}{3} x f''(x) dx$.

- A) 36.
- B) 32.
- C) 28.
- D) 24.
- E) 12.

- A)
- B)
- C)
- D)
- E)

Clear my choice

Question 2

A certain substitution gives:

Evaluate the integral:

$$\int \frac{1}{\sqrt{x^2 - 16}} dx$$

A) $\ln|x + \sqrt{x^2 - 16}| + c.$

B) $\ln\left|x + \frac{1}{\sqrt{x^2 - 16}}\right| + c.$

C) $4 \ln|x + \sqrt{x^2 - 16}| + c.$

D) $\frac{x}{4} + \frac{\sqrt{x^2 - 16}}{4} + c.$

E) $2(x^2 - 16)^{\frac{1}{2}} + c.$

A)

B)

C)

D)

E)

Clear my choice

The integral that represents the volume of the solid obtained by rotating the region enclosed by $y = 4x$, $y = x + 3$, and $y = 0$ about x -axis is

A) $\int_0^8 \left(\frac{3y}{4} + 1\right) dy$

B) $\int_{-3}^0 (x + 3)^2 dx + \int_0^1 16x^2 dx$

C) $\int_{-3}^2 (x + 3)^2 dx - \int_{-3}^1 16x^2 dx$

D) $\int_{-3}^0 (x + 3)^2 dx + \int_0^1 (-15x^2 + 6x + 9) dx$

E) $\int_{-3}^1 (x + 3)^2 dx + \int_0^1 (1 - 3x)^2 dx$

Select one:

A

Quiz n

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9	10

Finish atte

Time left 0: