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Multiple Choice

5 pts

Find $\int (3x^2 - 2)\,dx$.

- $3x^3 - 2x + C$
- $x^3 - 2x + C$
- $x^3 - 2x$
- $\frac{3}{2}x^3 - x^2 + C$

Multiple Choice

5 pts

Find $\int \sqrt[3]{x}\,dx$.

- $\frac{4}{3}x^{4/3} + C$
- $\frac{2}{3}x^{3/2} + C$
- $\frac{3}{4}x^{4/3} + C$

- $\frac{3}{2}x^{2/3}+C$

Multiple Choice

5 pts

Find $\int \frac{x^2+1}{x^2}dx$.

nswer

- $x-\frac{1}{x}+C$
- $\frac{x^3+x}{x^3}+C$
- $\frac{x+1}{x}+C$
- $(x^2+1)^3+C$

Multiple Choice

5 pts

Find $\int (-2\sin x)dx$.

- $\frac{1}{2}\cos x+C$
- $-\frac{1}{2}\cos x+C$
- $-2\cos x+C$

nswer

- $2\cos x+C$

Multiple Choice

4 pts

Solve the following differential equation:

$$\frac{dy}{dx} = \frac{1}{x^2}$$

- $y = -x + C$
- $y = -\frac{1}{x} + C$
- $y = -2x^2 + C$
- $y = -\frac{2}{x^2} + C$

Multiple Choice

4 pts

Using the solution from **question 5**, find the value of C when $x = 1$ and $y = 0$.

- $C = 2$
- $C = 0$
- $C = 1$
- $C = -1$

Multiple Choice

4 pts

Find the following sum:

$$\sum_{i=1}^{3} i^2$$

nswer

- 14
- 11
- 9
- 6

Multiple Choice

4 pts

Find the upper Riemann sum of $f(x) = x^2 + 2$ on $[0, 2]$ with $n = 4$.

nswer

- $\frac{15}{4}$
- $\frac{26}{3}$
- $\frac{31}{4}$
- $\frac{23}{4}$

Multiple Choice

4 pts

Find the lower Riemann sum of $f(x) = x^2 + 2$ on $[0, 2]$ with $n = 4$.

- $\frac{15}{4}$
- $\frac{26}{3}$
- $\frac{31}{4}$

nswer

- $\frac{23}{4}$

Multiple Choice

5 pts

Evaluate $\int_0^2 (x^2+2)\,dx$.

nswer

- $\frac{20}{3}$
- 6
- 12
- 15

Multiple Choice

5 pts

Evaluate $\int_0^{\pi/4} \cos x\,dx$.

- $\frac{\sqrt{2}}{2}-1$
- $\frac{\sqrt{3}}{2}$
- $\frac{\sqrt{3}}{2}-1$

nswer

- $\frac{\sqrt{2}}{2}$

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