

EMCF 34

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1. Give the average value of $g(x) = x^3$ on the interval $[-1,2]$.
 - a. $3/4$
 - b. $5/4$
 - c. $4/3$
 - d. 1
 - e. 0
 - f. None of these.
2. Give the average value of $g(x) = \pi \sin(2x)$ on the interval $[0, \pi/4]$.
 - a. 2
 - b. 1
 - c. 4
 - d. 3
 - e. $5/2$
 - f. None of these.
3. Compute $\int_{-\pi}^{\pi/2} \sin(2x) dx$.
 - a. -1
 - b. 0
 - c. $1/2$
 - d. 2
 - e. None of these.
4. Compute $\int_0^1 x\sqrt{3x^2+1} dx$.
 - a. $5/7$
 - b. $2/3$
 - c. $7/9$
 - d. $3/4$
 - e. None of these.

5. Give the area bounded between the graphs of $f(x) = x^2 + 1$ and $g(x) = 2x + 4$.
- $31/3$
 - $32/3$
 - $29/3$
 - 10
 - None of these.
6. Give the area bounded between the graphs of $f(x) = x^2 + 2x - 1$ and $g(x) = 2x$.
- $4/3$
 - 1
 - $7/6$
 - $3/2$
 - None of these.
7. Give the upper sum of $f(x) = x^2 - 1$ over the interval $[-2, 2]$ with respect to the partition $P = \{-2, -3/2, -1, -1/2, 1/2, 1, 3/2, 2\}$.
- $3/2$
 - 2
 - $5/2$
 - 3
 - $7/2$
 - None of these.
8. Give the lower sum of $f(x) = x^2 - 1$ over the interval $[-2, 2]$ with respect to the partition $P = \{-2, -3/2, -1, -1/2, 1/2, 1, 3/2, 2\}$.
- $-1/2$
 - 0
 - $1/2$
 - 2
 - $3/2$
 - None of these.
9. Give the area bounded between the graphs of $f(x) = x^2 - 1$ and $g(x) = 2x + 2$.
- $29/3$
 - $31/3$
 - $32/3$
 - 11
 - $34/3$
 - None of these.

10. Give the area bounded between the graphs of $f(x) = x^2 - 1$ and $g(x) = 1 - x^2$.

- a. $8/3$
- b. 3
- c. $10/3$
- d. $11/3$
- e. 4
- f. None of these.