EMCF 29

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1. Compute $\int_{-1}^{1} x^2 dx$.
   a. 1/2
   b. 2/3
   c. 1/3
   d. 1
   e. 0
   f. None of these.
2. Compute $\int_{0}^{1} \left(x^2 + 3x \right) dx$.
   a. 11/6
   b. 2
   c. 5/3
   d. 3/2
   e. 13/6
   f. None of these.
3. Use Compute $\int_{0}^{\pi} \sin\left(x \right) dx$.
   a. 0
   b. 1
   c. 3/2
   d. 2
   e. 5/2
   f. None of these.
4. Compute $\int_{0}^{\pi} \cos\left(x \right) dx$.
   a. 0
   b. 1
   c. 3/2
   d. 2
   e. 5/2
   f. None of these.

5. Compute $\int_{-1}^{2} \left(2x^2 - 3x\right) dx$.
    a. 0
    b. 1
    c. 3/2
    d. 2
    e. 5/2
    f. None of these.
6. Compute $\int_{1}^{4} 2\sqrt{x}\, dx$.
    a. 7
    b. 25/3
    c. 26/3
    d. 9
    e. 28/3
    f. None of these.
7. Find the area bounded by the graph of $f\left(x\right) = 1 + x^2$ and the *x*-axis over the interval [-1,1].
    a. 5/3
    b. 2/3
    c. 1
    d. 7/3
    e. 8/3
    f. None of these.
8. Find the area bounded by the graph of $f\left(x\right) = x + x^2$ and the *x*-axis over the interval [0,1].
    a. 2/3
    b. 1
    c. 5/6
    d. 1/2
    e. 7/6
    f. None of these.
9. Find the area bounded by the graph of $f\left(x\right) = \sin\left(x\right)$ and the *x*-axis over the interval $\left[\pi/2, \pi\right]$.
    a. 1
    b. 2
    c. 3
    d. 4
    e. 5
    f. None of these.

10. Find the area bounded by the graph of $f(x) = \cos(x)$ and the *x*-axis over the interval $[-\pi/4, \pi/4]$.

a. 1
b. $1/2$
c. $1/\sqrt{2}$
d. $\sqrt{2}$
e. $2\sqrt{2}$
f. None of these.