Average Value M.C. Non-Calculator

20. The average value of $\cos x$ on the interval $[-3,5]$ is

1997

(A) $\frac{\sin 5 - \sin 3}{8}$

(B) $\frac{\sin 5 - \sin 3}{2}$

(C) $\frac{\sin 3 - \sin 5}{2}$

(D) $\frac{\sin 3 + \sin 5}{2}$

(E) $\frac{\sin 3 + \sin 5}{8}$

---

36. What is the average value of y for the part of the curve $y = 3x - x^2$ which is in the first quadrant?

1988

(A) -6 (B) -2 (C) $\frac{3}{2}$ (D) $\frac{9}{4}$ (E) $\frac{9}{2}$

---

44. The average value of $f(x) = x^2\sqrt{x^3+1}$ on the closed interval $[0,2]$ is

1985

(A) $\frac{26}{9}$ (B) $\frac{13}{3}$ (C) $\frac{26}{3}$ (D) 13 (E) 26

---

28. If the position of a particle on the x-axis at time t is $-5t^2$, then the average velocity of the particle for $0 \le t \le 3$ is

1985

(A) -45 (B) -30 (C) -15 (D) -10 (E) -5

---

3. If $\int_a^b f(x)\,dx = a + 2b$, then $\int_a^b (f(x) + 5)\,dx =$

1997

(A) $a + 2b + 5$ (B) $5b - 5a$ (C) $7b - 4a$ (D) $7b - 5a$ (E) $7b - 6a$

Average Value
Multiple Choice
CALCULATOR

83. The velocity, in ft/sec, of a particle moving along the x-axis is given by the function $v(t) = e^t + te^t$. What is the average velocity of the particle from time $t = 0$ to time $t = 3$?

(A) 20.086 ft/sec

2003 (B) 26.447 ft/sec

(C) 32.809 ft/sec

(D) 40.671 ft/sec

(E) 79.342 ft/sec

---

91. What is the average value of $y = \dfrac{\cos x}{x^2 + x + 2}$ on the closed interval $[-1, 3]$?

(A) -0.085 (B) 0.090 (C) 0.183 (D) 0.244 (E) 0.732

2008