Name _____ - D 11

(4)

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

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

(2) The area of the region bounded by the curve $y=e^{2x}$, the x-axis, the y-axis, and the line $x=2$ is equal to

(A) $\frac{e^4}{2}-e$ (B) $\frac{e^4}{2}-1$ (C) $\frac{e^4}{2}-\frac{1}{2}$

(D) $2e^4-e$ (E) $2e^4-2$

(3) $\int \sin(2x+3)\,dx=$

(A) $\frac{1}{2}\cos(2x+3)+C$ (B) $\cos(2x+3)+C$ (C) $-\cos(2x+3)+C$

(D) $-\frac{1}{2}\cos(2x+3)+C$ (E) $-\frac{1}{5}\cos(2x+3)+C$

(4) What are all values of x for which the function f defined by $f(x)=(x^2-3)e^{-x}$ is increasing?

(A) There are no such values of x.

(B) $x<-1$ and $x>3$

(C) $-3<x<1$

(D) $-1<x<3$

(E) All values of x

(5) $\int \frac{x^3}{e^{x^3}}\,dx=$

(A) $-\frac{1}{3}\ln e^{x^3}+C$ (B) $-\frac{e^{x^3}}{3}+C$ (C) $-\frac{1}{3e^{x^3}}+C$

(D) $\frac{1}{3}\ln e^{x^3}+C$ (E) $\frac{x^3}{3e^{x^3}}+C$