Multizestaw zadań

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1 Wikieł/C1.1a

1. Zadanie z Wikieł C 1.1a moja wersja nr [nrWersji]
Oblicz całke

$$\int \sqrt{x}([a]-x^2)^2dx.$$

Rozwiązanie (autor Aleksandra Pasińska , recenzent):

$$\int \sqrt{x}([a]-x^2)^2dx = \int \sqrt{x}([aa]-[a2]x^2+x^4)dx =$$

$$= \int [aa]\sqrt{x}-[a2]x^2\sqrt{x}+x^4\sqrt{x}dx = \int [aa]x^{\frac{1}{2}}-[a2]x^2\cdot x^{\frac{1}{2}}+x^4\cdot x^{\frac{1}{2}}dx =$$

$$= \int [aa]x^{\frac{1}{2}}-[a2]x^{\frac{5}{2}}+x^{\frac{9}{2}}dx = [aa]\int x^{\frac{1}{2}}dx-[a2]\int x^{\frac{5}{2}}dx+\int x^{\frac{9}{2}}dx =$$

$$= [aa]\cdot\frac{2x^{\frac{3}{2}}}{3}-[a2]\cdot\frac{2x^{\frac{7}{2}}}{7}+\frac{2x^{\frac{11}{2}}}{11} = [aa]\cdot\frac{2x\sqrt{x}}{3}-[a2]\cdot\frac{2x^3\sqrt{x}}{7}+\frac{2x^5\sqrt{x}}{11}+C =$$

$$= \frac{[aa2]x\sqrt{x}}{3}-\frac{[a22]x^3\sqrt{x}}{7}+\frac{2x^5\sqrt{x}}{11}+C$$

Odpowiedź:
$\frac{[aa2]x\sqrt{x}}{3}-\frac{[a22]x^3\sqrt{x}}{7}+\frac{2x^5\sqrt{x}}{11}+C$

Test:
A. $\frac{[aa2]x\sqrt{x}}{3}-\frac{[a22]x^3\sqrt{x}}{7}+\frac{2x^5\sqrt{x}}{11}+C$ B. $-\frac{2x^5\sqrt{x}}{11}+C$ C. $\frac{[aa2]x\sqrt{x}}{3}-2+C$ D. $\frac{[aa2]x\sqrt{x}}{3}+C$ E. $\frac{2x^5\sqrt{x}}{11}+C$ F. $\frac{[a22]x^3\sqrt{x}}{7}+\frac{2x^5\sqrt{x}}{11}+C$ G. $-\frac{[a22]x^3\sqrt{x}}{7}+\frac{2x^5\sqrt{x}}{11}+C$ H. $\frac{[aa2]x\sqrt{x}}{3}+\frac{2x^5\sqrt{x}}{11}+C$ I. $\frac{[aa2]x\sqrt{x}}{3}-\frac{[a22]x^3\sqrt{x}}{7}+C$
Test poprawna odpowiedź:
A