CALCULUS
Integration by substitution: Problems
NEW

NEW 0670-1. a. Compute $\int \cos(3x+4)\,dx$ by making the substitution $u = 3x + 4$.

b. Check your answer by differentiating.

NEW 0670-2. a. Compute $\int x[\cos(3x^2+4)]\,dx$ by making the substitution $u = 3x^2 + 4$.

b. Check your answer by differentiating.

NEW 0670-3. a. Compute $\int \dfrac{x\,dx}{\sqrt{3-5x^4}}$ by making the substitution $u = x^2\sqrt{5/3}$.

b. Check your answer by differentiating.

0670-4. NEW Evaluate $\int x^5 e^{x^6-\pi}\,dx.$

0670-5. NEW Evaluate $\int x^5 e^{-x^6/\sqrt{2}}\,dx.$

0670-6. NEW Evaluate $\int x^5(-2x^6-7)^{55}\,dx.$

0670-7. NEW Evaluate $\int [x-2][\cos(x^2-4x+e)]\,dx.$

0670-8. NEW Evaluate $\int \dfrac{[\csc(\ln x)][\cot(\ln x)]}{x}\,dx.$

0670-9. NEW Evaluate $\int \left(\csc^5 x\right)(\cot x)\;dx.$

NEW 0670-10. Evaluate $\displaystyle\int_3^9 x^5 e^{4x^6+\sqrt[3]{7}}\,dx.$

NEW 0670-11. Evaluate $\displaystyle\int_{\pi/6}^{\pi/4} \left(e^{\csc x}\right)(\csc x)(\cot x)\,dx.$

NEW 0670-12. Evaluate $\displaystyle\int_{\pi/4}^{\pi/6} \left(e^{\csc x}\right)(\csc x)(\cot x)\,dx.$

NEW 0670-13. Evaluate $\displaystyle\int_{27}^{8} \frac{e^{-\sqrt[3]{x}}}{\sqrt[3]{x^2}}\,dx.$

NEW 0670-14. Evaluate $\displaystyle\int_e^{e^5} \frac{\sec^2(\ln x)}{x}\,dx.$

NEW 0670-15. Evaluate $\int_3^9 x^5 e^{4x^6+\sqrt[3]{7}}\,dx.$

NEW 0670-16. Evaluate $\int_{\pi/6}^{\pi/4} \left(e^{\csc x}\right)(\csc x)(\cot x)\,dx.$

NEW 0670-17. Evaluate $\int_{\pi/4}^{\pi/3} [(\cot x) - \pi][\sec^2 x]\,dx.$

NEW 0670-18. Evaluate $\int_8^{27} \frac{e^{-\sqrt[3]{x}}}{\sqrt[3]{x^2}}\,dx.$

NEW 0670-19. Evaluate $\int_e^{e^5} \frac{\sec^2(\ln x)}{x}\,dx.$