Cal II (S) (Maths 201–NYB)

Integrate:

1. $\int \cos^4 x \, dx$

2. $\int \dfrac{\sec^4 x \, dx}{\sqrt[3]{\tan x}}$

3. $\int \sin^2 x \cos^2 x \, dx$

4. $\int \sec^4 x \tan^3 x \, dx$

5. $\int \dfrac{\cos^3 x \, dx}{\sin^4 x}$

6. $\int \dfrac{\cos^5 x \, dx}{\sin^4 x}$

7. $\int \dfrac{\cos^3 x \, dx}{\sin^6 x}$

8. $\int \sec^3 x \tan^4 x \, dx$

9. $\int \dfrac{\sin^2 \theta}{\cos \theta} \, d\theta$

10. $\int \dfrac{dx}{(x^2 + 9)^2}$

11. $\int \dfrac{x \, dx}{(x^2 + 9)^2}$

12. $\int \dfrac{x^5}{\sqrt{x^2 + 9}} \, dx$

13. $\int \dfrac{\sqrt{4x^2 - 9}}{x} \, dx$

14. $\int \dfrac{4x - 3}{x^2 + 16} \, dx$

15. $\int \dfrac{x^3}{\sqrt{25 - x^2}} \, dx$